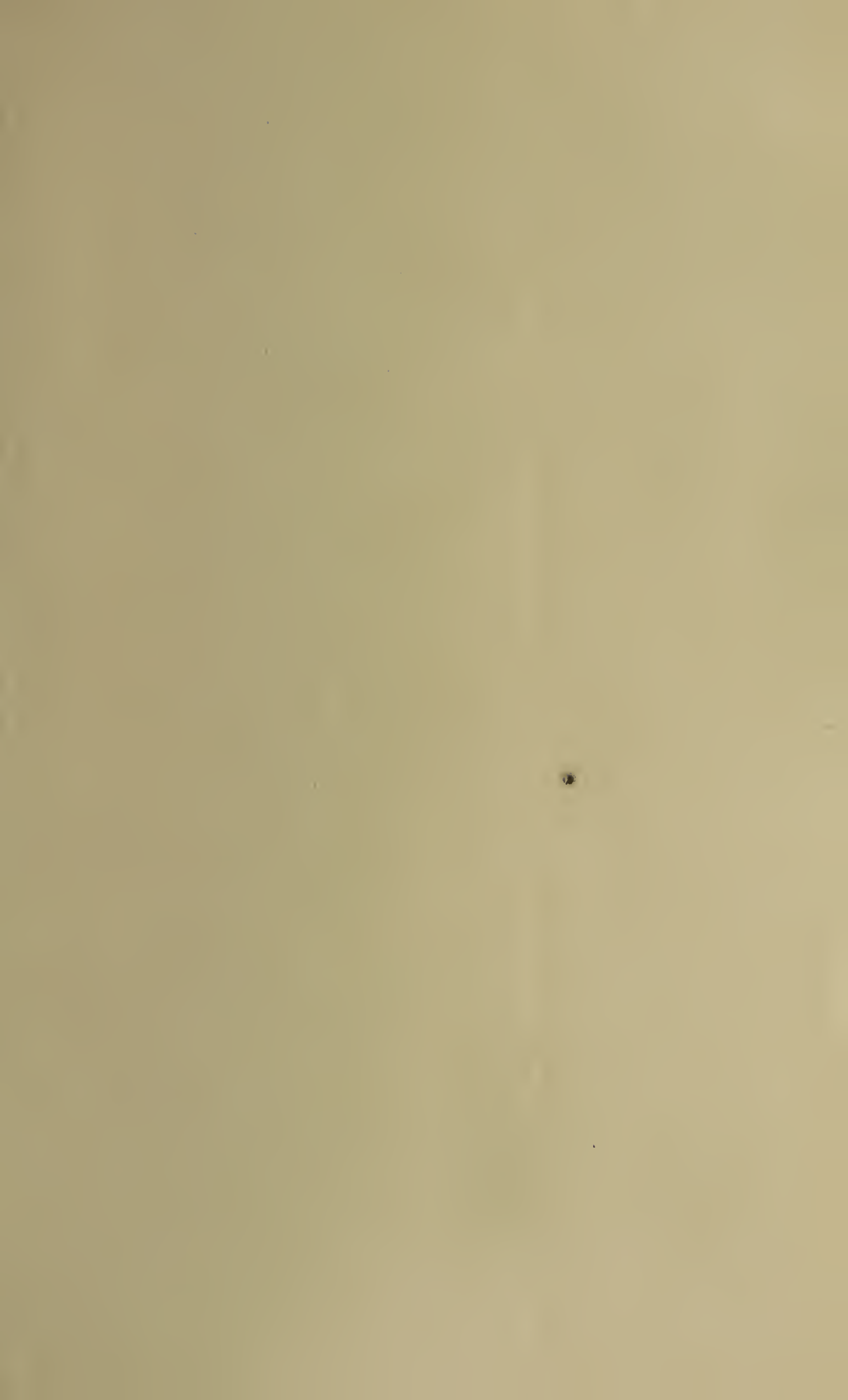




Box ~~185~~ 176





M E D I C A L
C O M M E N T A R I E S

FOR THE YEAR M,DCC,LXXXIX.

EXHIBITING A CONCISE VIEW OF THE
LATEST AND MOST IMPORTANT DISCOVERIES
IN MEDICINE AND MEDICAL PHILOSOPHY,

COLLECTED AND PUBLISHED BY

ANDREW DUNCAN, M.D.F.R.&A.S.ED.

PHYSICIAN TO HIS ROYAL HIGHNESS THE PRINCE OF WALES
FOR SCOTLAND,
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH,
AND MEMBER OF THE ROYAL SOCIETIES OF MEDICINE
OF PARIS, COPENHAGEN, EDINBURGH, &c.

Neglecta reducit, sparsa colligit, utilia selegit, necessaria ostendit, sic utile.
Baglivius.

DECADE SECOND.

VOL. IV.

EDINBURGH:

PRINTED FOR C. ELLIOT AND T. KAY, at
Dr Cullen's Head, N^o 332, opposite Somerset-Place,
Strand, LONDON;

AND FOR C. ELLIOT, EDINBURGH.

M,DCC,XC.



TO
Dr GEORGE PEARSON,
PHYSICIAN to ST GEORGE'S HOSPITAL, *London,*

AND
LECTURER on PHYSIC and CHEMISTRY;

In testimony of esteem
For his meritorious exertions,
And in remembrance of former intimacy,

This Volume of
MEDICAL COMMENTARIES
is inscribed,

By his sincere friend,
ANDREW DUNCAN.

*Vivit is qui se utitur : Qui vero latitant et torpent, sicut
in domo sunt, tanquam in conditivo.*

SENÉCA.

P R E F A C E.

WE cannot present this Volume to the Public, without returning our sincere and hearty thanks to those ingenious Correspondents who have favoured us with the original observations which it contains. To some of them, our Readers will observe, we have been indebted on former occasions ; and it will give us much satisfaction to be favoured with their future assistance. We are far, indeed, from asserting, that their observations are free from imperfections, or will escape criticism. This can hardly be expected at a period, when not a few critics seem much more disposed to point out imaginary faults than real excellencies.

But we trust that the candid Reader, who bestows upon them a careful perusal, with the view of acquiring useful information, will not be disappointed.

In the present Volume, the section allotted to Medical News is extended to a greater length than in almost any former one. And it gives us much satisfaction to have been able to announce to the Public, some new practices lately introduced with success, and many important publications, which will soon appear. It is very evident, that no exertion on our own part can furnish to our Readers proper or authentic information, without some assistance from the Authors. But we cannot help thinking, that without anticipating any other intended publication, such short notices as are here given may serve both to excite a proper curiosity, and to prevent unintended misrepresentations.

These

These considerations, joined to a desire for the advancement of the healing art, will, we trust, secure to us the future assistance of learned and ingenious men : And, if it be in their power, they will add much to the obligation they confer upon us, by transmitting their communications at an early period. These, as formerly, may be either sent to Dr Duncan at Edinburgh, or addressed to the care of Messrs Elliot and Kay, booksellers, opposite to Somerset-place, Strand, London.

EDINBURGH, }
Dec. 1. 1789. }

The first of the year was a very
successful one. The weather was
very good and the business was
very good. The first of the year
was a very successful one. The
weather was very good and the
business was very good. The first
of the year was a very successful
one. The weather was very good
and the business was very good.

The second of the year was a
very successful one. The weather
was very good and the business
was very good. The second of
the year was a very successful
one. The weather was very good
and the business was very good.

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M E D I -

M E D I C A L COMMENTARIES,

FOR THE YEAR 1789.

VOL. IV. DÉCADE II.

S E C T. I.

Account of New Books.

I.

*Observations Générales sur les Hôpitaux, suivies
d'un projet d'Hôpital. Par M. Iberti, Doc-
teur en Médecine. Avec des plans détaillés,
redigés, et dessinés, par M. Delannoy, Archi-
tecte et Ancien Pensionnaire du Roi, à Rome.
8vo, A Paris.*

THE construction and management of ho-
spitals, is a subject which, of late, has
very much engaged the attention of most of
the nations of Europe; and when the com-

VOL. IV. DEC. II.

B

parative

parative mortality of different hospitals, under practitioners of equal ability, is considered, this will justly be concluded to be a matter of very great importance. The author of the treatise before us, a native of Italy, has, he tells us, travelled over different countries, and paid particular attention to the abuses in the management of hospitals, and the essential faults in their construction. His remarks, therefore, may naturally be supposed to afford useful information on this subject.

After some observations on the causes which have produced material defects in the hospitals of France, Dr Iberti observes, that amidst other objects to which the discussions respecting the Hotel-Dieu have given place, it has been contended by some, that treatment at their own houses is best calculated for the relief of the sick poor. But, besides many other inconveniences under which this treatment must on different occasions labour, he observes, that in large cities, there are many who have not even any fixed residence; and that public hospitals are therefore absolutely necessary. He considers it, however, as the wisest and most useful plan, that private treatment

ment of the sick poor should be conjoined with hospital practice, or should even precede it. By this happy combination, he observes, economy and humanity would be equally consulted.

Rome, he tells us, has set the first example of such private gratuitous practice, combined with public treatment: For, from time immemorial, that city has been divided into twelve districts, to each of which a physician, surgeon, and apothecary are appropriated, for furnishing gratuitous attendance and remedies to all those families whose poverty is properly attested. This example, although not precisely on the same footing, has been followed in England; and it has been adopted on a very improved plan at Madrid, under the auspices of the minister of state, the Count of Florida-Blanca. And in judging, he tells us, from the list published, of patients treated at their own houses, for the year preceding the publication of his book, he thinks it almost impossible to conceive a plan of relieving this unfortunate class of people, more extensively useful, or more economical.

But, while hospitals are essentially necessary for those who have no fixed habitation, they afford also the most useful schools to students of medicine, for acquiring real knowledge. And, he observes, that nothing has contributed more to establish the celebrity of the medical school at Edinburgh, and to render its professors justly respectable over all Europe, than the excellent method of making pupils study, at the bed-sides of patients, both the progress of diseases, and the effects of remedies; especially as this is conjoined with lectures, where the method of treatment employed, is the subject of discussion; and in which it is not rare to find the professor accusing himself of error, analysing the cause of his mistakes, and pointing out the mode of avoiding them. These things, so much neglected elsewhere, appear to our author so necessary, that they should, he thinks, not only be imitated, but even commanded; and by making hospitals real schools of medicine, they are rendered doubly respectable in the eyes of humanity. Accordingly, what was first done at Edinburgh, is now adopted into several other of the principal hospitals of Britain, and
into

into many of those of Germany, but particularly into that of Vienna, the hospital of which may, he thinks, at present be mentioned as one of the best regulated in Europe.

But, besides the instruction furnished to pupils; upon hospitals very much depends the progress which may be expected in the healing art. For it is almost there alone, that trials can properly be made of new inventions, added to those of ancient date, and of the discoveries of modern chemistry and botany. And such trials, the want of efficacy in certain cases from every mode of cure hitherto known, ought naturally to inspire. In private practice, a physician can hardly venture to depart from the beaten path; but, in hospital practice, he is sure of submission to his prescriptions; and it is almost impossible to avoid strict regulations, with respect both to diet and regimen. These then are advantages not to be had in an equal degree in ordinary practice, and of which an able physician will not fail to avail himself, when he wishes to make trial of those new processes in cure,

which the theory of his art and his experience sanction with the probability of success.

Hospitals being, then, in every point of view, among the number of those establishments, necessary and worthy of the constant protection of every good government, it is of the highest consequence to give them that degree of salubrity which promises the greatest probability of cure to the sick. But, without entering into other particulars, Dr Iberti observes, that the most important circumstance is what respects the building, the disposition of which is often such as to prevent the renewal of air, and the preservation of cleanliness; agents, without which, neither the utmost care of the physicians, nor the most powerful remedies, can be of any use.

Some diseases, he observes, even derive their birth from these charitable establishments; and a dangerous species of fever has justly obtained its name from those places where health is sought for. The insalubrity of hospitals does not tend so much to retard the cure of the sick, as to add to the diseases which they have carried there, others still more fatal. For some time, governments have

have turned their attention to prisons, and have been sensible of the cruelty of subjecting to fatal contagion, those who, though suspected of crimes, could not be punished without a legal sentence: But, if a reform has been thought necessary for prisons, how much more should humanity solicit it for hospitals, in which the indigent seek for an asylum in the arms of charity? It is therefore necessary that hospitals be constructed in such a manner as to give the air free access to them on all sides,—to prevent, at every time, too great heat or moisture,—and to form currents sufficiently strong for removing morbidic miasmata, which otherwise would become a fomes of contagion.

All these advantages, our author observes, are to be obtained by means of due separation from other buildings, of exposure, and of the distribution and correspondence of different parts of an hospital. But in place of this, the skill of architects has hitherto been directed to œconomy, and to the accommodation of the greatest number of sick in the smallest possible space; and the chief boast of hospitals seems to have been placed in the number they re-

ceived, not in those who were dismissed in health. But it is at least necessary that salubrity and economy should be conjoined.

Dr Iberti's attention has long, we are told, been particularly fixed on the subject of hospitals; and the habit of observing those establishments, to which he had been attached in Italy and in Spain, proved to him, that, upon the proper disposition of an hospital, depends not only the renewal of air, a circumstance always essentially necessary, but also in a great degree its internal policy, and the regularity as well as the expedition of the service. It was accordingly upon these grounds that he formed the idea of a new hospital; which however, he observes, he might never have been able to communicate to the public, without the assistance of Mr Delannoy, an architect whose profound views in every part of his art rendered him capable of giving every necessary advice; and to him Dr Iberti acknowledges the obligation of having drawn, from the data with which he was furnished, those plans, engravings of which are annexed to his treatise, but which the nature of our work will not permit us to introduce.

As to the general form of the hospital which Dr Iberti proposes, it consists of a large square building, divided by four other rows of buildings, forming a Grecian cross, and united at the centre by a building of a circular form. By this disposition, the large square is divided into four smaller courts, each of which, however, are sufficiently large for the free circulation of air. He proposes that this building should consist only of a ground floor and first floor; for a number of floors render the service difficult, increase the danger in cases of fire, and prevent the ventilation of the floors below. The ground floor, which he proposes to have sufficiently elevated above the level of the court, and sufficiently lofty, so as to admit even of an intersole when necessary, he would appropriate for lodging the physicians, surgeons, chaplains, nurses, and in general every person attached to the hospital.

Besides this, he intends that it should contain the admission-room, consulting-room, room for out-patients, the shop, the elaboratory, the wardrobe, the store-room, the magazine for matraffes, a room for the reception of the clothes of those patients who enter the hospi-

tal,

tal, and other similar conveniences. In addition to these, he proposes also to place there lunatics and pregnant women. He allows, indeed, that separate buildings would be more proper both for the one and the other; but this, he thinks, might deviate too far from the œconomy which it is necessary always to have in view; and he is also of opinion, that it would not be difficult to demonstrate, that the apartments here allotted to them would be equally safe and convenient.

When it is necessary to assign to those labouring under contagious diseases, apartments altogether separate from others, no situation, Dr Iberti thinks, can be better suited to these, than a part of the ground floor. These patients, while few in number, should have each a separate apartment; a precaution essentially requisite, where an attempt is made to prevent an epidemic. Where, however, an epidemic has already taken place, and consequently a considerable number are affected with it, one or more wards must be appropriated to them, regulated in a manner of which the author afterwards takes notice. The ground floor being sufficiently extensive, Dr Iberti proposes also to place

place there, in particular apartments; consumptive patients, and those labouring under hydrophobia.

In Dr Iberti's plan, the under floor is divided by long passages, uninterrupted through their whole length; and, by means of windows opening into these passages, at certain distances, free air is afforded not only to the passages themselves, but also to all the apartments of the sick, and the lodgings of the different officers placed there.

As to the wards for the sick which occupy the first floor, the front walls rise to their whole height, and support an arch, pierced at proper distances by lanterns, or simply by openings, serving as ventilators. The use, and even the necessity of these ventilators, is, Dr Iberti thinks, very manifest: they facilitate the escape of those mephitical vapours, which the inferior currents incessantly tend to accumulate at the upper part, where they would remain stagnant, if care were not taken to afford them an outlet. The height of this floor is such as to have two rows of windows, the one immediately above the other.

Parallel

Parallel to the side-walls, and at a certain distance from them, Dr Iberti proposes that a slight partition should be raised, to the height of the lower windows in the wards for the sick, and which serves to inclose a passage principally intended for the service of the privies. The beds of the sick are to be set against this partition, and they are to be separated from each other by slight partitions, running in a direction cross the wards, and so high that the patients cannot see, or easily disturb each other. Two such ranges of alcoves, which however are not, as some readers of Dr Iberti's work have supposed, shut at the top, but open above to the whole height of the ward, conjoined with large and clear wards, where every thing favours the circulation of air, appears to our author to be of all dispositions the most simple and the most advantageous. He proposes, that the alcoves should be sufficiently large to admit of two passages by the bed of each patient: that in each alcove there should be an air-hole under the bed, supplied from the ceiling of the ground floor, and capable of being opened, shut, or regulated at pleasure. He advises, that all the
bedsteads

bedsteads should be made of iron, and of such a construction, that, by means of a handle, every possible degree of inclination, suited to the convenience of the sick, may be given them: and, to avoid all fœtor as much as possible, he proposes, that in place of close-stools, the wards should be plentifully supplied with water-closets.

As there is a manifest cruelty in performing chirurgical operations in the wards of the sick, and almost under their eyes, it is necessary that places should be appropriated for these purposes, in which proper instruments should be deposited, and which should be lighted from the top. Those patients from whom acute pain draws forth cries, should also be placed at a distance from others; and, in fine, every thing should be avoided which, by exciting the sensibility of the patient, can disturb the course of nature. On this account, Dr Iberti advises, that only a certain number of strangers at a time should be admitted into the wards.

At the point of union of the four ranges of lodging within the square, which cut each other at right angles, and in the centre of the large circular building which has already been mentioned,

mentioned, on the first floor the kitchen is to be placed, and on the ground floor the furnaces of that kitchen. In this, Dr Iberti observes; that he imitates the hospital of Florence; and he thinks it is hardly possible to follow a better model; for by this means a very small quantity of fuel will be sufficient; which is, he remarks, an almost inconceivable object of œconomy.

The kitchen he directs to be formed by a circular wall, opening by arcades, which may be shut at pleasure by glass doors, so as totally to hinder the smell of the kitchen from being propagated into the wards; and a circular gallery on the outside of these, will serve as a communication for passing from one ward into another. On the outside of this gallery, he proposes to place the apartments for bathing. Their number, he observes, should be considerable; and the neighbourhood of the kitchen will furnish warm water in sufficient quantity; to afford an opportunity of administering, to every sick patient who may have occasion for it, a remedy so frequently necessary in practice. He advises, that the bathing-tubs be made of marble, rather than metal, because in medicated

cated baths, in particular, the latter being in some degree dissolved, may alter the effect of the remedy. And he concludes this subject with observing, that neither machines for fumigation, for shower-baths, nor, in a word, any thing which concerns baths taken under every possible form, ought to be neglected.

Among other abuses which have taken place in the administration of hospitals, the want of a sufficiently frequent change of bed-clothes and body linens, may, he thinks, be justly mentioned; or, what is perhaps worse, furnishing the patients with linens ill-washed, and still moist. This, he thinks, beyond doubt proceeds principally from the difficulty of procuring warm rooms, or drying-houses sufficiently large, to spread out and dry, by an equable heat, a considerable quantity of linen at a time. But in the plan of kitchen which Dr Iberti proposes, under the chimney-head, in a vaulted room forming the elevation of the rotundo, he proposes that the drying apartment should be placed, heated by tubes coming directly from the kitchen, and giving exit to the smoke.

Among other advantages of this kitchen, he mentions also, that it serves as a ventilator for
part

part of the hospital. Stoves distributed through all the wards, for preserving the necessary degree of heat in the Winter, will likewise serve as so many ventilators, and will furnish sand-baths, for keeping of a proper temperature the broths, pufans, and other drinks which may be ordered for the patients.

Dr Iberti next proceeds to make some remarks on the distribution of patients in the different wards of his hospital. He observes, that the plan of the first floor, taken altogether, forms as it were four large squares, united at a point, the centre of the kitchen, and consisting in all of twelve large wards. The two squares towards the front he would appropriate entirely to the internal diseases of men and of women. These two squares, which have one side in common, occupy seven of the twelve large wards which constitute the first floor. Two of the remaining wards in the back of the hospital, he proposes should be appropriated to the surgical diseases of men, and two to those of women; and the twelfth ward, which makes a common side to the two squares which are backwards, he would appropriate to women before and after delivery.

The

The wards destined for chirurgical patients; are separated from each other at the corners by two large round apartments, lighted at the top by a cupola, and intended for operations. Two other rotundoes, lighted in the same manner, terminate the two wards in the principal front of the hospital, and are intended to serve as store-rooms for linen and other necessaries; besides which, by means of the stove in the middle of them, they will serve as ventilators for the neighbouring wards. Four apartments, which terminate the wards forming the cross in the middle, may also be considered as serving the same purpose. But these are more particularly intended for chapels, having an altar placed in the centre, which will be visible from all the wards, and which will admit of proper decorations, and of every convenience necessary for worship.

After these observations on the mass of the hospital, Dr Iberti next proceeds to speak of the accessory buildings which must necessarily accompany it. And, first, he mentions two houses for convalescents, placed one on the right, the other on the left side of the hospital, situated each in the middle of a large garden,

completely surrounded by a piazza communicating with the principal hospital, which will serve, in all weathers, as a walk for those who are able to go abroad to take the air, and to establish a constant communication, by which convalescents may be able to receive, at all times, either from the kitchen or shop, whatever may be necessary for them.

All the space between the covered walk and the houses for convalescents, may be regularly disposed in ranges of trees, forming alleys for walks in the open air; and in the interval between these walks may be either green turf, or different plants serving for use or for ornament. This he rather recommends, as it has been found by experience, that the growth of vegetables tends very much to purify the air.

At the four angles, formed by the extremities of the covered walks surrounding the garden, Dr Iberti has placed in his plan, four pavilions. One of these he intends for a bake-house, another for a dairy, a third for a slaughter-house, and the fourth for a wash-house.

As a botanical garden is necessary to an hospital, both for pharmacy, and likewise for the instruction

instruction of pupils, he appropriates for this purpose a large semicircular space behind the hospital, at the sweep of which, most distant from the hospital, he proposes to place an amphitheatre for anatomy ; as, for the cultivation of this branch of medicine, he considers hospitals as presenting the greatest advantages.— Hitherto, he observes, what has chiefly been studied in anatomical theatres, is merely the structure of the human body. This is unquestionably an essential preliminary ; but afterwards, still more advantage, in the progress both of medicine and surgery, may be derived from pathological anatomy, occupied in considering the connection between morbid appearances found upon dissection, and those diseases to which the patients were known to be subjected before death ; and he observes, that although such enquiries might be sometimes humiliating to the practitioner, yet the cause of humanity and of science would be served by them : And, still farther to answer this purpose, he recommends that preparations should be made of the principal morbid parts, properly numbered, and referring to the page of the

register in which the history of the patient's case is recorded.

We have thus endeavoured to give some account of the idea of a new hospital, as proposed by Dr Iberti; and although we are afraid it will not be easy for the reader to understand every part of it, without the aid of those plans which are annexed to the original treatise; yet there can be no doubt, that many hints are thrown out, rarely carried into practice, which may with very great advantage be adopted, even in hospitals already built and established; while they may be still more useful at the building of a new hospital, even although Dr Iberti's plan should not be followed in all its extent: And it will be universally admitted, that there is perhaps hardly any subject, by which the interest both of medicine and of humanity may be more essentially promoted, than by the proper construction and regulation of hospitals.

II.

Æthusæ Cynapii in Corpore Humano Effectus nocivus. Auctore Rudolpho Buchhave, M. D. Vide Acta Regiæ Societatis Medicæ Hauniensis. Vol. I. 8vo, Hauniæ.

SOON after the publication of Dr Stoërk had celebrated the praises of Cicuta, and led to its employment over almost all Europe, very different opinions came to be entertained of its effects; and in particular, it was often accused of producing alarming, and even dangerous consequences. These, Dr Buchhave thinks, may not unfrequently proceed from the *Æthusa Cynapium*, the Cicely or Fool's Parsley, as it is called in English, being mixed with the *conium maculatum*, or common hemlock, the article recommended by Dr Stoërk. To this opinion our author is led, from some cases which fell under his own observation; and these he relates in the paper before us.

The first case, is that of a widow, about forty years of age, who had been long afflicted with carcinomatous ulcers of her face and neck, pouring forth a very foetid ichor, and, although surrounded by callous edges, yet gradually extending to the neighbouring parts. In other respects she was in good health. Besides laxatives, Dr Buchhave prescribed for her hemlock pills, which she took without any inconvenience for the space of two months. But no change for the better being produced upon the disease, he prescribed the herb of the hemlock, directing an ounce of it to be boiled in thirty-two ounces of simple water; and of the strained liquor three ounces were ordered to be taken daily, in different portions, for the space of four or five weeks. But during that time, she frequently complained that the draughts of her decoction excited tremors, vertigo, headach, cholic pains, vomiting, loss of strength, and aversion at food. Dr Buchhave, suspecting that these might proceed from improper regimen, directed strict attention in that particular, and, hoping for better effects, admonished her to continue the decoction. But being afterwards
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informed that consequences still more alarming had taken place, particularly violent vomiting and severe convulsions, and never having known these to proceed from the Conium, he was led to examine the plant with which she was furnished; and he soon found, that a large proportion of the *Æthusa* was mixed with the Conium. After this she was furnished with genuine and unmixed hemlock. Of this she formed a decoction, and took it in the manner before directed, without any inconvenience. Under the use of this, the symptoms above enumerated gradually diminished; her strength was daily augmented; the malignant ulcers yielded a laudable pus; and, in the space of about eleven months, she was completely cured.

Soon after this, Dr Buchhave was consulted about the case of a woman in the country, whose whole family had died of consumption. She was a little past her twentieth year, and had complained for a long time of difficult respiration and dry cough. She had taken a variety of remedies, without obtaining any relief. Suspecting tubercles in the lungs, Dr Buchhave had recourse to the Conium, which he di-

rected under the form of decoction, half an ounce of the plant being boiled with thirty-two ounces of water to two pounds; and she was directed to take three ounces of the strained liquor every two hours. After it had been used with impunity for twenty-four days, she became affected with difficult respiration, headache, cholic pains, nausea, vomiting, lassitude, and torpor. Dr Buchhave suspecting a similar accident to that formerly mentioned, examined the leaves from which the decoction had been formed; and here also he could easily distinguish the leaves of the Cicely, mixed with those of the Hemlock. To prove beyond doubt that the symptoms mentioned above arose from the decoction, two other persons took each a single ounce of it; and, in the space of a few minutes, nausea and cholic pains were excited in both. This patient afterwards employed the Hemlock, genuine and unmixed, without suffering from thence any inconvenience.

Besides these two, Dr Buchhave relates also a third case, that of a young country man, about the 20th year of his age. When he applied for our author's advice, he was affected with venereal ulcers on the palate, nose, and
right

right cheek. In conjunction with the use of some laxative medicines, he was directed to use a decoction of Hemlock. He prepared this during the Summer from the plant collected in his neighbourhood, and used it without any inconvenience. But being afterwards obliged to purchase it from an apothecary, it induced great nausea, vertigo, languor, and a variety of other symptoms; and upon examination it was found, that here nearly equal parts of the Cicely and Hemlock were mixed: but the Hemlock being afterwards procured free from any mixture, he took it without any inconvenience; and in process of time a complete cure was obtained. Dr Buckhave is of opinion, that here the inconvenience resulting from the Cicely, was probably less considerable than would otherwise have been the case, from the patient having used a milk diet.

From these cases Dr Buchhave concludes, that the bad consequences which some have ascribed to Hemlock, are in reality to be attributed to other plants being mixed with it; and he observes, that the different umbellatæ are often confounded together, the conium not only being mixed with the æthusa, but also with
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the cicuta virofa, the chærophylum, the phælandrium, and feveral others. Dr Buchhave tells us, that, trusting to extensive experience, he can boldly affert, that Hemlock, if it be not productive of a good effect, will at leaft be followed by no bad confequence, even when given in large dofes.

III.

III.

De Gei Urbani radice, pharmaco Corticis Peruviani succedaneo. Auctore Rudolpho Buchhave, M. D.—Vide Acta Regiæ Societatis Medicæ Hauniensis. Vol. I. 8vo, Hauniæ.

ABOUT a year before the publication of this volume of the transactions of the Royal Medical Society of Copenhagen, Dr Buchhave had published a treatise, intituled, “*Observationes circa radicis Gei urbani vires in febribus præcipue intermittentibus, aliisque morbis.*” In that treatise, which we have never had the good fortune to see, he gives an account, we are told, of a discovery which he had made respecting the medical properties of the root of the *Geum Urbanum*, a plant known in Britain by the name of *Herb Bennet*, or *Common Avens*, and growing in great abundance in many different parts of this country. The experience of other practitioners

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in Denmark having confirmed the observations of Dr Buchhave, that the use of this remedy might be still more extensively known, he was induced, at the request of some members of the Royal Medical Society, to publish, in their Transactions, a short account of its powerful effects, and of the method of obtaining these.

He sets out with observing, that, of all the remedies hitherto discovered for the cure of intermittent fevers, the Peruvian bark may justly be considered as the safest and most effectual; but that, on some occasions, it is too dear for the poor; that, on others, it does not so far overcome the fomes of periodical and intermittent fevers as to remove the danger of a relapse; and that, in a third set, its effects are rendered uncertain, either from spurious barks being mixed with it, or on account of the length of time for which it has been kept, or its corruption in other respects.

From these circumstances it happens, that the poor, in the diseases mentioned above, have often recourse to less certain and more dangerous remedies; from which, diseases of a chronical nature, in the end often even prov-
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ing fatal, not unfrequently arise. Urged by these considerations, when placed in a situation where intermittents prevailed very much, he collected a variety of leaves and roots from domestic plants, and distributed them among the sick, in the hopes of finding, by such trials, some article indigenous in Denmark, not inferior to the Peruvian bark.

Some of these, though rarely, were yet productive of benefit; but the effects of most of them being uncertain, he at last fell upon the root which is the subject of this paper. He knew, that the *Geum Rivale*, or Water Avena, which is daily used for the cure of tertian agues among the Canadians, had upon the authority of Kalm, been introduced as a remedy in Sweden; and although it had by no means been always successful, yet the benefit derived from it was a strong inducement with him to make trial of the *Geum Urbanum*, from the hope that, in this root, nearly related to the other, a febrifuge power might reside. The first trials which he made, gave him hopes of success; and, from repeated experience, he found the virtues of this article so strongly confirmed, that he reposed the greatest confidence in it; and

and he has now for some years held it to be a remedy which, in the cure of periodical and other diseases, is even much superior to the Peruvian bark.

Rejoicing in this discovery, he committed to writing the observations he had been able to make respecting it, and published them for the public good, in the treatise to which we have already alluded; and, in the paper before us, he presents us with a concise view of his observations, particularly with regard to the synonyms of the plant—the description and character of the root—the time of gathering, and the method of drying it—as well as its virtues and efficacy in the cure of diseases.

The *Geum Urbanum* of Linnæus, which, among the ancient botanists, had the name of *Caryophyllata Vulgaris*, never, he tells us, grows in open or cultivated grounds, but delights in the shade of trees or shrubs; and is therefore most frequently met with in woods or orchards, or by the sides of hedges or walls. The root arrives at the greatest size, and is the most powerful, when growing in fat ground.

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For the generic and specific description of this plant, our readers may be entirely referred to the writings of Linnæus. After the plant has flowered, and the seeds have fallen from the receptacles, late in the Autumn the root produces new leaves, which remain green the whole Winter, even under the snow. Thus, the plant may be found at all times of the year. The root, which is perennial, is often about the length and thickness of a finger; and, in old plants, it consists of a principal root, from which proceed numerous long fibres. This principal root is conical, and descends obliquely into the earth. When it is cut either transversely or according to the length, it shews a cortical part of a whitish colour, and a medulla of a beautiful violet colour. These marks sufficiently distinguish this root from that of the Water Avens, which has a white medulla, and is a creeping root, furnished with very few fibres, chiefly growing in moist and marshy grounds.

This root, which to the taste shows considerable astringency, possesses an aromatic flavour by no means ungrateful, and approaching to that of cloves. It tinges water, wine, spirit,

or

or any similar menstruum, with an obscure red colour; and, when pounded, it forms a pale red powder. The best time for collecting this root, according to our author, is from the beginning of April to the end of July. The roots which are dug at other seasons of the year, possess much less of the aromatic smell and taste, and are less powerful. The roots, as soon as they are dug, must be carefully washed and cleaned from all adhering matter, particularly from the black squamulæ with which they are often covered, and which, while they are inert, give a disagreeable appearance to the powder.

The proper method of drying the root is, according to our author, a subject of the utmost importance; for upon this its efficacy in the cure of diseases very much depends. The roots, after being freed from every foreign matter, are to be placed in a dry and cold situation, open to the wind and air, but not exposed to the rays of the sun. By this means, in consequence of a slow and cold evaporation, the medical powers of the root are retained. For, in consequence of a strong heat, either
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from the rays of the sun, or from a fire, the agreeable and efficacious aroma flies away.

Various virtues, our author observes, have been attributed to this root by different writers. Among others, it has been reckoned astringent, aphrodisiac, sudorific, antacid, antihysterical, and the like. Some also, although in a transitory way only, have mentioned its antifebrile power. But besides its internal use, recourse has also been had to the whole plant externally, as a cure for scorbutic ulcers and fistulas. According to the experience of Dr Buchhave, it is slightly astringent, alexipharmic, and antiseptic. The first of these powers he found it to exert in diseases depending on laxity of fibre, as in affections of the alimentary canal, dysentery, diarrhoea, and the like. The second he found it to exert in mucous diseases, resolving, by its aroma, superfluous mucus, and discharging it through the cutaneous pores: By this means he found it in some cases excite even copious sweating. The third and last, its antiseptic power; he found it exert in an eminent degree in malignant and putrid diseases; insomuch that he considers this root as being the most powerful antiseptic yet discovered.

The first trials with this root, as has already been mentioned, were in intermittent fevers, where it much exceeded his expectation ; for he did not expect to find a remedy superior to the Peruvian bark ; and when he began his enquiry, he would have been very well contented to have found an equal to it. In the beginning he employed it in large doses ; but having, from some accidental circumstances, found that small ones were productive of the same effect, he learned to determine the proper dose by experience ; and he found, that three or four drams were sufficient for removing most intermittents ; although autumnal quartans sometimes required more. In all the intermittents removed by it, the cure was effected in the most simple manner ; for, after premising an emetic or purgative to empty the alimentary canal, he had immediately recourse to the febrifuge ; and in some cases even of quartans, no circumstance occurring to indicate the use of any evacuant, the febrifuge was immediately had recourse to without premising any remedy.

Dr Buchhave asserts, in the strongest terms, that by this remedy, employed in the manner that has been mentioned, he was never disappointed

pointed of the wished-for success, unless when the root was not of good quality, from being ill dried, or collected at an improper time; and even in these cases, it was in general necessary only to give a larger quantity of the root, employing six or eight drams, in place of three or four. An increased dose was sometimes also necessary, from the peculiar obstinacy of the disease, or peculiar anomalous symptoms. Thus, in one double tertian, although the root was of the best quality, two ounces were found to be necessary for completing the cure.

In intermittents of a very bad kind, and particularly those accompanied with visceral obstructions, it is sometimes necessary to have repeatedly recourse to the use of the remedy, where it seems to be accommodated to the nature of the disease; but, in other cases, it is more adviseable to attempt a cure by resolvents, cathartics, or the like. Of this kind often are those intermittents, which, occurring in Autumn, run on late in the Winter, or even to the Spring, obstinately resisting every remedy. In all those intermittents in which he employed this root, while he found it almost uniformly of service, he never observed from

it, even when taken to the greatest extent, any bad effect ; and it could never be suspected of inducing obstructions of the viscera, or the like.

Since the vulgar, among whom Dr Buchhave made his first trials, reckon spirits a great delicacy, he first used the root of the Geum under the form of an essence ; he then tried it in the form of decoction ; and lastly, under that of powder. But under every form it retains its medical properties, and is productive of the same effect. Upon the whole, however, he was inclined to give the preference to the powder and to the essence, being suspicious that the grateful volatile part was exhaled in boiling. For the formation of the essence and decoction, he used the following forms :

Essentia.

℞ Rad. Gei. urb. unc. iv. confc. contus. infunde in Sp^t. Vin. Gal. lb. ii. M. digere in balneo arenæ per sex dies, et cola.

Decoctum.

℞ Rad. Gei. urb. unc. i. contus. coqu. cum Aquæ simplicis lb. ifs.
ad remanent. lb. i. colat. adde
Syr. Com. q. v.

Besides

Besides these, Dr Buchhave gave the Geum also under the form of the following electuary:

℞ Pulv. Rad. Gei. urb. semunc.

Mel. despumat. q. s. M. f. Electuar.
molle.

Of the essence or tincture, an ounce and a half is the ordinary dose; and this, diluted with a little water, is to be taken three or four times on the day of the intermission. Of the decoction, two ounces are to be taken every hour, or every second hour; while the electuary or powder are taken at the same intervals, to the extent of about half a dram. Though these doses may, to practitioners unacquainted with this medicine, appear small, yet our author assures us, that when the medicine is of good quality, they will be found fully sufficient.

In some cases, where intermittents are stopt by means of the Peruvian bark, it is necessary, in order to prevent a relapse, that it be afterwards continued to a considerable extent; and there are cases upon record, in which it has been found necessary to exhibit it to the quantity of one, two, or even more pounds. On the contrary, when the disease is stopt even

by small doses of the Geum, Dr Buchhave affirms, he very rarely found it necessary to have recourse either to more of this, or to any other medicine, with a view of preventing a relapse; and that, too, even where patients, immediately after their recovery, used greater freedom in indulging themselves in every respect than they ought to have done. This, he thinks, clearly shows, that the Geum, by its action on the nerves, possesses a power even superior to the Peruvian bark, in completely extinguishing every febrile commotion.

While Dr Buchhave was engaged in the cure of intermittents by means of the Geum, he was led, in part by accident, and in part by reasoning, to employ it in many other diseases; and from these trials he derived a high degree both of instruction and of satisfaction. Thus, while he employed it for the cure of an intermittent, with a man who at the same time laboured under a hæmaturia, the discharge of bloody urine entirely ceased. Being called to a woman in the country, who laboured under hæmatemesis, and having no other remedy at hand, he had recourse to the Geum, under which she had a complete recovery. From thence he concluded

ed, that the Geum was a useful remedy in hæmorrhagies.

As the vomiting which frequently takes place in intermittents was removed by means of the Geum, he inferred, that it might be useful in affections of the nervous kind. Its influence in a weakened state of the stomach, pointed out its use for restraining increased discharges by the belly; and the analogy between periodical and acute diseases led him to infer, that it might be useful in these; while again its strong antiseptic power, proved by experiment, pointed it out as an article promising relief in putrid and malignant complaints; and from the success with which it was attended in these different ailments, he infers, that it is not merely possessed of a febrifuge power, but that it is endowed with many other virtues not inferior to this; and in particular, he observes, that all who employed this medicine were sensible of its effects in strengthening the alimentary canal, improving the appetite, and giving fresh vigour to the whole system.

The method in which Dr Buchhave employed the Geum in other complaints, was nearly similar to that in which he used it in intermit-

tents. Having premised or interposed such other remedies as indications seemed to require, he proportioned the quantity of the Geum to the importance of the complaint; giving the powder in doses of half a dram, or a scruple, from two or three to five or six times in the course of the day.

There can be no doubt, that if this article shall nearly merit the character which Dr Buchhave has bestowed upon it, we may justly consider it as a most important addition to *Materia Medica*, or rather as the useful revival of a medicine too much neglected; for it has a place in most systems of *Materia Medica*, either under the name of Geum, or *Caryophyllata*. But after the many instances which have often occurred, of deceptions on former occasions, even in the hands of apparently accurate observers, it will readily be allowed, that it is only by the concurring testimony of many different practitioners, that the real character of any medicine can be determined; and the inducements to have recourse to the Geum, are so numerous, that future trials, it is to be hoped, will not long be wanting.

It is here however proper to remark, that, in the hands of some other Danish practitioners, the Geum has not been equally successful. Thus, in the volume now before us, there is a paper, intituled, "*Observationum medico-practicarum subsecivarum decas. Auctore A. B. Ranoe, M.D.*" &c. which, among other miscellaneous observations, contains some remarks on the Geum. Dr Ranoe there informs us, that he tried it against tertian fevers in six cases, in none of which it had the smallest effect. He acknowledges, however, that the intermittents of that year were peculiarly obstinate; and, in some other diseases, particularly in cases of hysteria, of uterine hæmorrhagy, and with some reconvalescents from fever, he found it of great service.

IV.

Observatio de Morbo Maculoso Hæmorrhagico.
Auctore Joanne Philippo Rogert, M. D.
Diæces. Viburg. jutl. Phys. Reg. Societ.
Memb. Extraord.—Vide Acta Regiæ Socie-
tatis Medicæ Hauniensis. Vol. I. 8vo,
Hauniæ.

IN the paper before us, the history of a case is related, affording an example of a disease, which, although probably it not unfrequently occurs in practice, yet has claimed but little attention from medical practitioners, and has, we think, been improperly confounded with other diseases. It must indeed be admitted, that, in some particulars, it has a resemblance to scorbutus, or sea-scurvy. But at the same time, no one who has had an opportunity of seeing both diseases, can have any doubt that they are essentially different; and, notwithstanding what may have happened in particular

particular instances, (such, for example, as in that now before us), yet this affection, we may venture to assert, will by no means, in general, be found to yield to that treatment best fitted for the removal of scorbutus. It may therefore be justly considered, both with respect to the history and practice, as a subject well deserving the attention of practitioners.

The case here related, is that of a girl in the twenty-second year of her age, of a slender make, and very fair complexion. She had, for a considerable time, led a sedentary, or rather an indolent life, and was often afflicted with headach, bleeding at the nose, and inflammation of the eyes. She had regularly menstruated, but not without some difficulty.

While her menses were flowing, during the month of November 1777, and upon being much heated with dancing on repeated occasions, she exposed herself to a cold piercing wind, with the view of diminishing the heat. Upon this she became affected with a troublesome cough, and an excessive flow of the menses for three succeeding periods; and, on the first of March, the flow was most profuse, attended with severe headach, and such anxiety
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at the præcordia as even threatened fainting. The day following she was obliged to keep her bed, and was much alarmed by the appearance of a discharge of blood, from the angles of the mouth, the lips, the tongue, and the gums, either happening spontaneously, or from the slightest injury. Blood also was discharged from the nostrils, and coagulated clots were evacuated by coughing, while the urine was of such a dark colour as to verge even to blackness. Red spots, the largest from five to six lines in diameter, the smallest about the size of flea-bites, appeared both on the face and trunk of the body, but still more on the extremities. These in a few days became of a black colour; and they were so far extended, that even the tunica conjunctiva of the eye was not free from them. The blood discharged was apparently found, much resembling that discharged from cutting a vein; but it showed no crust upon its surface.

With the view of combating these complaints, recourse was had to nitre with oxymel, taken in barley-water; and it was observed, that, notwithstanding a considerable loss of blood, the strength of the patient was hardly in
any

any degree impaired. The flux continuing, on the 5th of March a vein was opened in the foot. In other respects, matters continued much in the same situation, excepting that a small quantity of rhubarb, taken every second day, seemed to have diminished the flow through the natural passages.

On the 8th of March, the menstrual discharge stopped; but the hæmoptysis and discharge of blood by urine still frequently recurred. Her strength however remained unimpaired, and her sleep and appetite were even mended. On the 16th of March, she discharged red-coloured turbid urine, with considerable strangury and pain at the under part of the belly. Her cough and oppression at the breast, were always relieved upon the discharge of clots of blood. Besides these symptoms, she was much distressed with tinnitus aurium, and a sense of noise in the head, and her tongue was covered with a white mucous crust.

This being the state of the disease, as it appeared unusual and wonderful, Dr Rogert, who was placed at a distance from this patient, was consulted by letter respecting its
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nature and the mode of cure. Although he was unable to investigate the cause of this disease, yet he was inclined to attribute the symptoms to a dissolved state of the blood. He observes, that medical records contain histories of maculæ and hæmorrhagies, even by passages more uncommon, in instances of scorbutus, of putrid fever, of ammenorrhœa, of poisons taken internally, and of poisons introduced externally, by the bite of particular serpents, particularly of the Seps, Labarra Americana, Hæmorrhoids, and some others. But to none of these causes could the disease of his present patient be attributed. She indeed dwelt upon the sea-coast, in a situation often liable to intermittent fevers. But scorbutus could not, he thinks, proceed from this cause alone; and here there was no vitiated diet to induce it. Besides this, considerable hæmorrhagies in scorbutus and putrid fever rarely take place, unless on the approach of death, and are preceded by a great degree of debility, which in this case was entirely wanting. Those hæmorrhagies which depend upon the menstrual discharge, arise only from suppression; but in this case, the menses, although

though somewhat inordinate, were not suppressed. Nor was there here the smallest suspicion of the introduction of poison of any kind. On the day of its commencement, indeed, the patient had taken broth in which pork had been boiled; but this could with as little justice be considered as having any influence in inducing the disease.

But, whatever might be the cause of this affection, Dr Rogert observes, that from the analogy of this disease to scurvy, which he considers as most nearly approaching to it, he directed that the cure should be conducted in a similar manner. On this account, he refrained from blood-letting: He directed a gentle laxative with manna to be first taken, and the belly to be afterwards kept gently open by a powder, consisting of equal parts of cream of tartar and rhubarb, taken every morning and evening. He directed also, that half a dram of the Peruvian bark should be taken every two hours; that fluids should frequently be drunk, acidulated with a considerable proportion of the vitriolic acid; and that this should be alternated with an infusion of horse-radish, or mustard, in beer; that, avoiding all fat or
salted

salted meat, the patient should live entirely on a diet of milk, fresh animal food, and vegetables.

This plan having been adopted, Dr Rogert was informed, on the 25th of March, that the patient was now no longer confined to bed; that her strength was increased; that her general habit was little different from that of a person in health; that her appetite and sleep were natural, although still clots of blood were discharged by the mouth; that the ringing of the ears, sense of noise in the head, and maculæ, still continued; although these last, from a black, had become of a yellowish green colour. A large menstrual discharge had taken place on the 23d of March, upon which a swelling of the epigastric region, to which she had before been subjected, disappeared. She neither now complained of heat nor thirst, but was highly impatient and dejected. In addition to the former remedies, Dr Rogert directed a mixture of conserve of roses with nitre to be taken in small quantities at a time; and to the infusion of horse-radish, which she now nauseated, he substituted an infusion of malt. She was also directed to take, from time to time,
a glass

a glass of the expressed juice of garden scurvy-grafs.

Under these remedies, her complaints were by degrees so much mitigated, that when Dr Rogert had an opportunity of seeing her, on the 21st of April, she had regained a fine florid complexion, and enjoyed perfect vigour, both of body and mind; nor was she afterwards subjected to any similar complaint.

The disease here described, may justly be considered as a rare occurrence; but, at the same time, it cannot be represented as an affection which has never been observed. It cannot, indeed, in our opinion, be considered as having entered either practical or even nosological systems. But in an inaugural dissertation published at Gottingen several years ago, intituled, "*De Petechiis sine fibre*," a case is described in every respect similar to that which is here related. And in a volume of medical cases published at Edinburgh by Dr Duncan, we have also the history of a petechial eruption without febrile symptoms. Since that, upwards of a dozen of similar cases have fallen under Dr Duncan's care, several of which have not only been the subject of practice, but also

of lectures at the Collegium Casuale. In these lectures, he has given it as his opinion, that this affection may be distinguished by the title of *Petechianosos*, from the petechial eruption with which the affection is very generally attended; or of *Aimorrhæa*, from the spontaneous discharges of blood, which are perhaps to be considered as a still more universal symptom; and very lately, this affection, under the title of *Hæmorrhæa Petechalis*, has been the subject of a very ingenious inaugural dissertation, published at Edinburgh by Dr James Makittrick Adair, in which several cases are collected. Without however at present entering farther on this subject, we shall only observe, that there is but little foundation for the opinion of those who consider this disease as being merely a form of scurvy: for, notwithstanding the similarity of the two diseases in some symptoms, yet they differ very essentially in others; and a still more material difference takes place, both with respect to the causes and method of cure.

Indeed, with regard to the present affection, it may be justly observed, that neither the causes nor method of cure are as yet, by any means, well ascertained. Some other cases, it
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is true, as well as that here recorded by Dr Rogert, have apparently yielded to the Peruvian bark and vitriolic acid, conjoined with such a regimen as Dr Rogert has directed. But others have obstinately resisted, not only that, but also a variety of other modes of treatment, and, after continuing for years, have at length spontaneously disappeared; while, in a few instances, this affection has proved suddenly fatal, apparently from excessive loss of blood. We may therefore point out this affection as a subject well meriting the future attention of practitioners.

V.

Spiritus Vini Camphoratus aqua miscibilis.

Auctore Andrea Joanne Retzio, *Phil. Magist. Hist. Nat. adjunct. et Botan. demon. ad Reg. Academ. Lundens.*—Vide *Acta Regiæ Societatis Medicæ Hauniensis. Vol. I.* 8vo, Hauniæ.

OUR author sets out with observing, that while camphor, in many particulars, agrees with resins strictly so called, in others it differs from them. Thus it is completely dissolved in even weak spirit of wine, and the solution is entirely void of colour; but, like the solutions of resins, upon the addition of water or watery fluids, it becomes turbid, and the water is separated. It was therefore reckoned impossible to apply camphor under the form of a watery epithem, unless from suspension with mucilage, which was often improper.

Mr Retzius had indeed often observed surgeons direct a mixture of spirit of wine
and

and lime-water : but, in this case, a precipitation equally takes place as upon the addition of common water. In the paper before us, he proposes a method, which he acknowledges he discovered by accident, of preparing a camphorated spirit of wine, miscible with water without any precipitation.

Mr Retzius, in his private College, explaining the nature of camphor, dissolved a portion of it in a sufficient quantity of concentrated vitriolic acid. He obtained a brown solution verging to black, about the consistence of oil ; to this he added a quantity of cold spring-water, by which the camphor was quickly precipitated ; and this he obtained by the help of bibulous paper, without any ablution. Immediately after this, he dissolved the camphor in rectified spirit of wine, that he might shew to his pupils that its qualities were not changed by the vitriolic acid. But he observed an unexpected occurrence, upon mixing this spirit with water ; for very slight appearances only of precipitation took place, and these very soon vanished, the mixture remaining undisturbed whatever quantity of water was added. But upon the addition of water slight-

ly impregnated either with fixed or volatile alkali, the camphor was immediately precipitated; from whence the conclusion was evident, that this effect entirely arose from a small portion of acid adhering to the camphor.

He took, after this, another portion of camphor, separated from vitriolic acid by water impregnated with alkali, and another separated by lime-water. Both these, dissolved in spirit of wine, shewed the usual appearances when water was added to them. That he might see whether this union between acidulated camphorated spirit of wine, and water, was permanent, he allowed a portion of it to remain at rest for the space of three months, in a glass slightly stopp'd; and at the end of that time, it still retained both the smell and taste of the camphor, though somewhat fainter, while its pellucidity was in no degree diminished.

Mr Retzius regrets that other occupations prevented him from prosecuting his experiments on this subject. He treated, however, in the same manner, a solution of camphor, obtained by the nitrous acid. With camphor,
first

first dissolved in the nitrous acid, and again separated from it by means of water, he formed a camphorated spirit with rectified spirit of wine. This nitrated camphorated spirit, mixed with water, shewed the same appearances as the vitriolated camphorated spirit. When it was diluted with much water, and mixed with syrup of violets, it shewed a purplish blue, but by no means a red colour; but blue paper obtained a redish tinge. From this, however, it is evident, that the portion of nitre which adheres to the camphor is but very small. e

When to the nitrated camphorated spirit lime-water is added, a precipitation arises; but by means of a small portion of spirit of wine, not rectified, all the precipitate is again dissolved. Even when no spirit was added, but the mixture only agitated, the whole precipitate again vanished, excepting a few small particles. When this mixture was filtrated through paper, it was found to be strongly impregnated both with the smell and taste of camphor; so that it seemed to be doubtful whether the particles separated

depended upon the camphor or upon the lime.

How far the mixture here prepared will be found of advantage in practice, we will not venture to say ; but it may at least be justly considered as a subject not unworthy of the attention of pharmacians.

VI.

*Vim Antarthriticam Trifolii Fibrini, exemplis
solemnibus confirmatam narrat Arn. Nic.
Aasheim, M. D. et Prof. Pub.—Vide Acta
Regiæ Societatis Medicæ Hauniensis. Vol. I.
8vo, Hauniæ.*

IN the observations with which we are here presented, respecting the use of the Trifolium Fibrinum in arthritic cases, the author does not pretend that this remedy can be considered as a new one. He justly observes, that its use in this disease has long been known to medical practitioners. And we may add, that while some have recommended the use of the Trifolium fibrinum or paludosum, the *Menyanthes trifoliata* of Linnæus, the Marsh Trefoil, as it is called in English; others have represented it as a dangerous remedy. Thus, Dr Alston observes, that he has known it have remarkable effects in
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the gout, in keeping off the paroxysms, though not to the patient's advantage. If, however, it does possess those powers which he alleges, there is reason to believe, that, although it be not admissible in every case, it may yet be highly useful in some; and the observations with which we are here presented, may justly be considered as well meriting the attention of practitioners.

On the 8th of July 1776, Dr Aasheim was called to a patient, a country labourer in the 39th year of his age, who had for two years been confined to bed. He had been subjected, from earliest infancy to the 37th year of his age, with wandering arthritic pains, which often arose to such a degree as to prevent him from his usual labour. This led him to apply for assistance to an empiric travelling about the country, who furnished him with a spiritous liquor to be copiously applied to the pained parts; promising that it would, almost miraculously, remove his disease.— But, upon the application being carefully made, he was entirely deprived of the power of moving his arms, hands, thighs, legs, or feet, by which he was confined to bed. And in this situation he was subjected to most excruciating

cruciating pains through his whole body. Swellings took place in most of the affected joints, accompanied with a dryness of the left hand and leg.

In this situation, Dr Aasheim's advice was fought for. He found the patient confined immoveably to his bed, in a hectic state, and crying aloud from the severe pains, all the fingers of his hands contracted, and his left arm, hand and leg, much diminished in size. At this time, although in the middle of a very warm summer, the patient was almost buried in furs and flannels; and the doors, windows, and almost every thing which could admit air into the small apartment in which he lay, were carefully shut. In addition to his other complaints, he had, for the space of two weeks, been subjected to symptoms of scorbutus. His teeth had become loose, his gums putrid, bloody, ulcerated, and foetid. His limbs had a livid appearance, and large livid blotches were observable in different parts of his body. His face was of a leaden hue; his eyes were concave; his pulse small, frequent, and irregular; and, in short, there was every appearance of speedy death.

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As the narrowness of this patient's circumstances was an objection to expensive remedies, Dr Aasheim, who had observed large quantities of the trefoil growing in his neighbourhood, and who recollected the observations of Bartholin and others respecting it, resolved to make a trial, in this case, of its antarthritic and strengthening power. He therefore directed that the patient should take every day two or three tea-cupfuls of the expressed juice of this herb, and that he should, at the same time, be exposed to free air. After a trial of some days, appearances being favourable, he increased daily the quantity of expressed juice, till his patient at last took it to the quantity of six small bowls every day; and with this Dr Aasheim advised him to employ butter-milk, by way of ordinary drink. Under these remedies, the symptoms of scurvy not only left him, but, in other respects, he was so much recovered, that, when our author saw him in the month of August, he was walking about with the assistance of a staff. But, about the end of the month, the juice of the trefoil becoming very disagreeable to him, he was obliged, on account of his stomach, to intermit the use of it. Dr Aasheim, however,

however, had reason to rejoice that his patient was so much recovered, as to be able alone to make a journey on foot, of upwards of a mile. He could now use his arms and hands with sufficient ease; his pains had left him; the natural colour of his complexion, and his alacrity of mind, had returned; and he was able to engage in his usual occupation. Still, however, a stiffness and contraction of some of his fingers remained; but, in other respects, he was now restored to health.

In the beginning of Winter, slight pain returned, with some stiffness both of his hands and feet. With the view of removing these, the extract of aconite was ordered to him, but without effect. In the Spring of 1777, Dr Aafheim advised the juice of the trefoil to be repeated. Under this his pains again left him, the rigidity of his feet and hands was removed, and his incurvated fingers admitted of sufficient extension for country work. Since that, he has continued in perfect health, and has no remains of disease, excepting a slight degree of stiffness in three of the fingers of his left hand. This peasant, taught by experience in his own case, recommended to several of his neighbours,

subjected

subjected to arthritic pains, the expressed juice of the trefoil; and many of them reaped benefit from it.

About the middle of Summer, in the year 1782, when Dr Aasheim was in the country, a peasant was brought to him, who had been for some years subjected to wandering arthritis; but in the Spring of that year he became affected with an epidemical catarrh, for which a variety of medicines, in use with rustics, were prescribed to him. From that time his arthritic symptoms increased, the pain being at last fixed in his right ankle. His neighbours persuading him that a dislocation had taken place, put him to a great deal of pain in attempting the reduction of it, from which the foot and leg became much swelled, so as not only to prevent all motion, but likewise to deprive him of sleep and appetite, from the severity of the pain. As our author saw no reason to believe that any luxation had taken place, and as he was disposed to ascribe both his present and former symptoms to gout, he advised the recent juice of the trefoil to be taken, to the extent of four tea-cupfuls in the day. In the space of eight days, the wife of his patient came

came with great joy to inform Dr Aasheim that her husband was much better; that he now passed his nights in tranquillity; and that, with the assistance of a staff, he was able to move a little about the house, the swelling and redness of his foot and leg being much diminished. Upon hearing this, Dr Aasheim ordered the dose of the juice to be increased, till the patient took it to the extent of six small basons every day. This quantity of juice he continued to take daily, till about the autumnal equinox. During that time the motion of the joint became every day more free, and less painful. The swelling and redness by degrees disappeared; and at length, throwing away his staff, he was able both to walk and to ride with perfect facility, and engaged, without any inconvenience, in every country work.

A third peasant, of a robust habit of body, after an epidemic catarrh in the Spring, which had been very improperly treated, became affected with severe arthritic pains; and by means of external remedies, these were landed on the head, the breast, and the intestinal canal.

nal. He applied for Dr Aasheim's assistance about the same time with the patient mentioned above. He was then affected with vertigo to such a degree, as to endanger his falling to the ground. His appetite and digestion were both very bad; he was frequently distressed with severe vomiting, and at times subjected to excruciating pains in his belly, particularly in the left hypochondrium. Against these complaints Dr Aasheim employed various antimonials and blisters, with some advantage, but not very considerable. To these he then substituted the expressed juice of the marsh trefoil, which completely removed his vertigo, difficulty of breathing, and pains in the abdomen. This, however, was attended with the renewal of some pains in his joints, particularly in the legs, which were not perfectly removed by the trefoil.

From these cases it appears, that, in some instances at least, the *menyanthes* may be employed with advantage against certain conditions of violent arthritic pains. And although, in cases of regular gout, while it retards the return of the paroxysm, it may at the same time have
a tendency

a tendency to bring it back under a more anomalous form; yet it does not appear that bad consequences of any kind could be attributed to it in the histories here recorded.

It is to be remarked, that the patients here mentioned, were all of them peasants, either not far advanced in life, or of a robust habit; and our author justly observes, that a mode of cure suited to those who dwell in the country, is by no means in every case accommodated to the inhabitants of large towns. In the exhibition of this remedy, therefore, these circumstances ought to be attended to. It may also be remarked, that in all these cases, the trefoil was exhibited under the form of recent expressed juice; and in this form it can be had only at certain seasons of the year. But although the recent juice may be best fitted for some affections, yet there can be little doubt, that a large proportion of it is mere water; and that its activity will be much varied by the succulence of the plants from whence the juice is expressed. A watery infusion, therefore, of the dried leaves, will at least be an article more certain in its strength, and can be had at all

seasons. Dr Cullen, among others, affirms that it is a mistake to suppose, that the trefoil loses its strength by drying; and he adds, that he commonly uses it in its dry state with all the advantages he could expect. But although it has been a good deal employed in Britain, and is at present often directed by different practitioners at this place, and likewise as a remedy in cutaneous diseases of the herpetic kind; yet, among us, it has not hitherto, we believe, been in use against such affections as those which Dr Aasheim here describes. The use, therefore, of a simple watery infusion of it in such instances, well merits the attention of practitioners, and may, we are inclined to think, be tried without any hazard.

VII.

The Connection of Life with Respiration, or an experimental Inquiry into the effects of Submersion, Strangulation, and several kinds of noxious Airs, on living Animals : With an account of the nature of the Disease they produce ; its distinction from Death itself ; and the most effectual means of Cure. By Edmund Goodwyn, M. D. 8vo, London.

WE mentioned in our last volume, that the Humane Society of London had bestowed one of their prize-medals for the year 1788 on Dr Goodwyn ; and the essay now before us was the means of obtaining for him that honourable distinction. Dr Goodwyn had indeed published the outlines of this essay about two years before, under the form of an inaugural dissertation at Edinburgh, intitled, “ De morbo morteque submersorum investigandis ;” and it then attracted the

attention, and merited the applause, of several eminent philosophers. But it is now presented to the public in an improved form, and with many important additional observations.

The author sets out with endeavouring to ascertain the general effects of submerſion on living animals, and to trace the connection of theſe with the action of the water on the body. With this view, he took a large tranſparent glaſs bell; and when it was inverted and filled with water, he put into it, at different times, cats, dogs, rabbits, and other ſmall animals, which he confined till they had the appearance of being dead. While they were confined in the bell, he attended particularly to the changes which took place; and as ſoon as they were taken out, he opened the head, breaſt, and belly, and examined the internal parts. As the reſult of theſe obſervations, we are preſented with the following deſcription of appearances.

When an animal is immerſed in water, the pulse becomes weak and frequent; ſigns appear of anxiety about the breaſt, and he ſtruggles to relieve it. In theſe ſtruggles he riſes towards the ſurface of the water, and throws

out

out a quantity of air from his lungs. After this the anxiety increases, the pulse becomes weaker, the struggles are renewed with more violence, he rises towards the surface again, throws out more air from his lungs, and makes several efforts to inspire, in some of which a quantity of water commonly passes into his mouth. The skin then becomes blue, particularly about the face and lips, the pulse gradually ceases, the sphincters are relaxed, and he falls down without sensation and without motion.

Upon opening the body, the external surface of the brain appears of a darker colour than usual; but the vessels are not turgid with blood, nor are there any marks of extravasation about them. The cavity of the lungs contains a considerable quantity of frothy fluid; and the pulmonary arteries and veins are filled with black blood throughout their whole extent. The right auricle and ventricle of the breast are still contracting and dilating; the left sinus venosus and auricle move feebly, but the left ventricle is at rest. The right auricle and ventricle are filled with black blood, and likewise the left sinus venosus and left au-

ricle ; but the left ventricle is only about half filled, with the same coloured blood. The trunks, however, and smaller branches of the arteries proceeding from the left ventricle, contain also a quantity of this black blood.

Among modern philosophers, these appearances have been attributed entirely to the effects which the water produces on the lungs ; either directly, by entering into their cavity ; or indirectly, by preventing the entrance of the air of the atmosphere : but neither opinion had been hitherto established by its partizans. Dr Goodwyn next attempts, therefore, to decide this question by experiment. He filled his glass bell with ink, and immersed a dog in it. As soon as his struggles ceased, he was taken out and examined. A small quantity of frothy fluid was found in the lungs, and it was coloured with ink. The same result was observed, when this experiment was repeated on three other dogs, and on three cats.

But although these experiments demonstrated, that some of the ink had passed into the lungs of these animals ; and although it may from thence be inferred, that a quantity

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of water commonly passes into the lungs of animals that are drowned; yet Dr Goodwyn suspected, that it might enter into the lungs by its own gravity, after the struggles of the animal have ceased. To determine this point, he performed the following experiment. He passed a ligature round the trachea of a dog, and strangled him. As soon as the animal ceased to move, he plunged it into a quantity of ink, and confined it there for several minutes. On examining the lungs afterwards, Dr Goodwyn found no ink in them. Thus, then, it appeared, that the ink did not enter the lungs by its own gravity.

But supposing it to enter the lungs during efforts to inspire, it still became a question, whether it was sufficient to produce the changes which took place in consequence of submersion. To determine this question, our author next endeavoured to ascertain the quantity of water that passes into the lungs during submersion, and the changes that are produced on the body by the introduction of an equal quantity of a similar fluid.

To determine this, it was necessary to employ, in experiment, such fluids as have no dis-

position to unite with the pulmonary mucus, but which, from remaining in the lungs in a separate state, may be again collected. He therefore filled a glass bell with quicksilver, and immersed a cat in it. When the body was taken out, he found half an ounce of quicksilver in the cavity of the lungs, and an ounce of a frothy fluid tinged with red blood. Upon repeating this experiment with other animals, he found, in different cases, from one to five drams of quicksilver, and from half an ounce to an ounce of frothy mucus; but in some of the experiments, no quicksilver was found.

Thus, then, it appears, that the quantity of fluid which enters the lungs on submersion, is very inconsiderable; and, to determine whether it was capable of producing those changes which took place, he confined a cat in an erect posture, and made a small opening into the trachea, by cutting out one of the cartilaginous rings. Through this opening he introduced two ounces of water into the lungs. The animal had immediately a difficulty of breathing, and a feeble pulse. But these symptoms were soon abated; and it lived several hours afterwards, without much apparent inconvenience.

inconvenience. After this he strangled it, and found two ounces and a half of water in the lungs. From a repetition of this experiment in different cases, it appeared, that a quantity of water introduced into the lungs, greater than what is found in them upon submersion, does not produce in the body those changes that take place in drowning.

From the whole of these experiments, then, taken together, Dr Goodwyn concludes, that a small quantity of water commonly does pass into the lungs in drowning; that this water enters the lungs during efforts to inspire; that, mixing with the pulmonary mucus, it occasions the frothy appearance mentioned by authors; but that the whole of this fluid in the lungs is not sufficient to produce the changes which take place in drowning. Hence he thinks it follows, that the water produces those changes which take place in drowning, by excluding atmospheric air from the lungs.

To discover in what manner the exclusion of atmospheric air operates, Dr Goodwyn next endeavours to determine the mechanical effects of the air on the lungs in respiration. With this view, he first endeavours to ascer-

tain the different quantities of air in expiration and inspiration, and the proportional dilatation of the lungs in each of these states; and then to determine the effects of these different degrees of dilatation on the pulmonary vessels, and on the current of blood circulating through them.

To measure the quantity of air taken into the lungs after a complete expiration, Dr Goodwyn procured a dead body of an ordinary stature, and applied a close compress upon the superior part of the abdomen, to fix the diaphragm in its situation. He then made a small opening into the cavity of the thorax on each side, and upon the most elevated part. The lungs immediately collapsed; and consequently, the air which they contained was expelled. Water was next introduced at these openings, till the cavity was filled, and the contents of the water were 272 cubic inches. The lungs of this body, therefore, contained 272 cubic inches of air, in a state of complete expiration. But as this experiment was made on a person who had been hanged, and while, therefore, an opportunity might not be afforded for a complete expiration before death, he repeated it on several adult subjects, who died of natu-
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ral deaths, and he found the quantity of air which the lungs still contained after complete expiration, to vary from 90 to 125 cubic inches. Thus, then, it appears, that, in every case, the lungs contain a considerable quantity of air after a complete expiration: and although this must necessarily vary much in different subjects, in proportion to the capacity of the thorax; yet he concludes, that, at a medium, the lungs of the human subject contain 109 cubic inches of air, after complete expiration.

Dr Goodwyn next proceeded to measure the quantity of air taken into the lungs at an ordinary inspiration; and, by means of an apparatus ingeniously contrived for the purpose, to which he gives the name of the Pneumatic Vessel, but of which it would be impossible to give our readers any accurate idea, without an engraving, he found, that the quantity of air taken in by an adult person of a middle stature, at an ordinary inspiration, after making full allowance for the rarefaction taking place in the lungs, and other circumstances, was only about fourteen inches. From this he thinks that a clear refutation is afforded of
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the doctrine of Dr Haller and others, respecting the influence they have supposed respiration to have upon circulation. And, from a number of very ingenious experiments, of which we cannot here propose to give a particular detail, he concludes, that, at a medium, after complete expiration, the lungs contain 109 cubic inches of air, and that this quantity receives an addition of fourteen cubic inches by inspiration; that the dilatation of the lungs, after expiration, is to their dilatation after inspiration, as 109 to 123; that the blood circulates through the pulmonary vessels in all degrees of natural respiration; and that the circulation through them, after expiration, is sufficiently free to keep up the health of the system. Hence he thinks it follows, that the dilatation of the lungs is not the final cause of respiration.

That this conclusion of Dr Goodwyn's is upon the whole well-founded, we will not pretend to deny; and we must also acknowledge, that although the result of his experiments be in some respects rather surprising to us, yet we cannot pretend to point out any particular error or fallacy in them. But, admitting that
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the dilatation of the lungs is not the final cause of respiration ; yet, that free circulation and respiration are somehow inseparably connected, is, we think, proved beyond all dispute, from the influence which even a temporary voluntary suspension of respiration has in producing an accumulation of blood in the face, and other evident marks of obstructed circulation. And we may also add, that, judging from the state of the pulse in these cases, we are very doubtful whether this accumulation can be explained upon those principles which Dr Goodwyn afterwards endeavours to establish.

After these observations on the mechanical effects of the air, Dr Goodwyn next endeavours to determine its chemical influence on the lungs in respiration. Common atmospheric air, our author observes, is now supposed to consist of nearly two-thirds of phlogisticated air, one third of dephlogisticated air, and a very small quantity of fixed air. When it is inspired into the lungs, and again expired into a receiver, it is found, that the quantity of dephlogisticated air is diminished, the quantity of fixed air increased, and that the phlogisticated remains the same. Dr Goodwyn found, from experiment, that the diminution of the
dephlogisticated,

dephlogisticated, and the increase of the fixed air, even in a single respiration, is considerable; and he also found, that the diminution of the dephlogisticated air, and the increase of the fixed air was constant and successive, in the same quantity of air frequently respired; but that the changes in the succeeding respirations bore no proportion to the changes in the first. Since, therefore, these changes are constant and uniform, they must, he thinks, be connected with some corresponding change in the lungs, equally constant and uniform; and there is, he observes, no substance in the lungs in which we can expect to find such corresponding changes, except in the blood which circulates through them.

It had been long ago observed by Lower, in his *Traité de Corde*, that the blood from a wound of the pulmonary vein, was florid; but that, before it entered the lungs, it was black. Hence he attributed the florid colour to the action of respiration; and this opinion seems now to be generally received. Dr Goodwyn examined these facts with particular attention, in dogs, toads, lizards, and other animals; and all his observations tended to confirm the opinion of Lower, that the blood
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acquires a florid colour in passing through the lungs, and that this colour is produced by the chemical action of the air. He found, by experiments very ingeniously devised for the purpose, that this change of colour in respiration, does not arise from the separation of fixed air, in its entire state, from the blood; and that it could not be attributed to the chemical action of the phlogisticated air; but that it was produced by the chemical action of the dephlogisticated air. He found, that when the dephlogisticated air is gradually diminished, the blood passing through the vessels of the lungs does not undergo the changes of colour which take place in ordinary respiration; and he infers, that the symptoms which follow obstructed respiration, must be attributed to this particular quality of the blood.

From the experiments which we have here alluded to, and a variety of others, into the detail of which we cannot propose to enter, Dr Goodwyn, upon the whole, infers, that a quantity of dephlogisticated air is separated from the atmospheric air in the lungs, by respiration, and a quantity of fixed air is added to it; that the dephlogisticated air exerts a
chemical

chemical action on the pulmonary blood, in consequence of which, that blood acquires a florid colour: that, in ordinary respiration, this florid colour is seen distinctly as the blood passes into the left auricle; and the heart contracts then with its natural force and frequency: that when respiration is obstructed, the florid colour is gradually diminished, and the contractions of the left auricle and ventricle soon cease: and finally, that this cessation of contraction arises from a defect of a stimulating quality in the blood itself. Hence, he thinks, it follows, that the chemical quality which the blood acquires in passing through the lungs, is necessary to keep up the action of the heart, and consequently the health of the body.

After these observations on the mechanical and chemical effects of the air on the lungs, in respiration, Dr Goodwyn next attempts to determine the nature of the disease produced by submersion; and he thinks, that the cessation of the heart's motion may be fully accounted for, from the action of water preventing the entrance of air into the lungs. As soon as the heart ceases to contract, and to propel the blood to the head, all the intellectual

tellectual operations cease, sensation and voluntary motion are suspended, and the external signs of life disappear; and the black blood remaining at rest in the vessels, particularly in the smaller branches of the arteries and veins, occasions the blue colour upon different parts of the body, but especially about the face and lips, where the number of superficial vessels is most considerable. He observes, that after the left auricle and ventricle have ceased to contract, the right auricle and ventricle are still exposed to the action of those means which naturally excite them to contraction. From this, he explains their continuing to contract for several minutes; and by propelling the black blood into the pulmonary arteries, they occasion the accumulation in the pulmonary vessels, and the livid colour on the lungs. But, from the resistance to the entrance of the blood into the pulmonary arteries, and from the want of the synchronic assistance of the left ventricle, the contractions of the right must, he thinks, become gradually more feeble till at length they cease; which will also, in part, arise from its being greatly distended with blood.

After thus endeavouring to trace all the symptoms, to the obstruction of respiration as their proper cause, he next proceeds to ascertain the name of the disease, and the place it should have in nosology. After objecting to the names *Syncope*, *Asphyxia*, and *Apoplexia*, which have been applied to it, our author thinks on mistaken views, he observes, that, if we are to consider the primary morbid affection of the body as the disease itself, and all the consequent appearances only as symptoms, the disease is in the blood, and consists in the presence of black blood in the left side of the heart and arterial system. It may therefore, he thinks, with propriety be styled *Melanæma*, which he defines, “impedita sanguinis venosi in arteriosum conversio, cujus signa syncope et livor cutis.”

To this genus of melanæma, besides the affection from drowning, we may also, he thinks, refer the affection brought on by hanging, by breathing fixed or phlogisticated air, or the like ; as these, in his opinion, are all produced by this black blood going into the heart unchanged by respiration. Thus, under
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the present generic term, he proposes to include the following species:

Melanæma à submersione,

————— à suspensione,

————— ab inspiratione aeris fixi,

————— ab inspiratione aeris phlogisticati.

As in this disease there is no pyrexia, nor any primary neurosis, and as the alteration of colour of the skin is a constant symptom, he thinks that the genus Melanæma would be best referred to the class Cachexia, and order Impetigo. He concludes, however, with observing, that as the name and arrangement of a disease are only secondary objects, when compared to ascertaining its nature, it is perhaps unnecessary to struggle in these matters against vulgar prejudice. Hence he thinks that no prejudice will result from retaining the accustomed title of *Asphyxia*, with such an addition as will express the primary affection. On this ground, he thinks the disease produced by submersion may be defined, “*Asphyxia à sanguine venoso in auriculam et ventriculum sinistros transeunte.*”

After thus endeavouring to determine the nature of the disease produced by submersion,

he proceeds to investigate the condition of the body in this disease, and the means of distinguishing it from death itself. After some observations upon heat and respiration, the external circumstances which excite to action that principle which is the immediate cause of all the functions that are performed in health, he enumerates several facts, showing the effects produced on the living body by the privation of heat and respiration: and from these he concludes, that the heart is the great seat of the principle of life in all the more perfect animals; and that the contraction of the heart, with the ordinary stimulus, is the only mark of the presence of this principle. Life, therefore, in the more perfect animals, may, he thinks, be defined, the faculty of propelling the fluids through the circulating system; and he concludes, that when the functions of an animal are suddenly suspended, and the body puts on the appearance of death, it is always in our power to determine whether it be really dead, by restoring the temperature, and by inflating the lungs with proper air.

Dr Goodwyn concludes this treatise by endeavouring to determine the best means of
curing

curing this disease, when the body is still in a recoverable state. Here, however, after having anticipated his remarks in different parts of the essay, he adds only a few observations on the manner of conducting the application of the means of cure.

He observes, that to recover the suspended functions, we must renew the contractions of the heart, which may be done by restoring to the body its heat and respiration. The first business, therefore, is to examine the temperature of the body; and if it be considerably below 98° , to order the application of heat. In this, however, some caution is necessary. In attempts to recover the hybernating animals from their winter torpor, it is a well-known fact, that when the temperature of the body is reduced near the freezing point, if heat be applied either very suddenly or in a very high degree, the principle of life is soon destroyed; whereas, if it be applied gradually, and in a low degree, it is excited to action, and the functions are soon restored. In Dr Goodwyn's opinion, it can scarcely be unsafe to conclude, that heat will produce the same effects on the body in this disease as in torpid

animals. To favour the recovery, then, heat should here be applied very gradually and very uniformly. It may be raised, he observes, to 98° , but not farther than 100° .

After the body is uniformly warmed, if the patient can make no attempt to inspire, we must next proceed to inflate the lungs with air. In this disease, as has already been observed, the pulmonary veins, the sinus venosus, and left auricle, contain a quantity of blood, which has passed through the lungs without undergoing the necessary change. The first object, therefore, in inflating the lungs, is to change the quality of the blood in these vessels, to fit it for exciting contractions.

For this purpose, a great quantity of air must be introduced at each inflation, by which means some of it will pass into the more remote cells. Dr Goodwyn proposes that upwards of 100 cubic inches of air should be introduced into the lungs of an adult at each inflation, and it must be carefully drawn out again before more be introduced. But, when a quantity of water has been insinuated into the small branches of the trachea, and into
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the air-cells, although the lungs be inflated with the utmost care, it may be impossible, on this account, to apply the fresh air sufficiently near the sinus venosus and left auricle, to change the quality of the blood they contain. Some of this water must therefore be removed before the air be introduced.

Dr Goodwyn here presents us with a particular description of an instrument, which serves the purpose both of inflating the lungs with air, and of extracting water from them. But without the engraved figure of the instrument, which is annexed to his essay, this description cannot be understood. For this instrument, Dr Goodwyn acknowledges himself indebted to that ingenious philosopher Dr Nooth, who has already enriched the arts by several valuable inventions.

If after the extraction of the water, when necessary, the inflations be continued carefully and slowly for several minutes, the contractions of the heart will be gradually renewed, and the other functions will soon return, without any other inconvenience than a difficult

and stertorous respiration, which often continues for a short time, arising from some water remaining in the lungs, which, however, will be gradually evaporated by the expired air.

In situations where dephlogisticated air can be obtained, it should always, Dr Goodwyn observes, be preferred to atmospheric air. For he remarked, that, in the case of small animals, the recovery by means of it was more expeditious than where atmospheric air was used. He candidly, however, acknowledges, that he had never been able to recover an animal with dephlogisticated air, where good atmospheric air had been ineffectual.

Besides these, Dr Goodwyn observes, that a variety of other practices have been recommended. Some of them, however, have, in his opinion, been suggested from a false notion of the nature of the disease; as bleeding, friction, and succussion: Others from a mistaken opinion of the principal seat of life; such as the application of different substances, to the skin, the stomach, the intestines, the parts of generation, the nose, the fauces,

&c. &c.

&c.: And a third set, from an ignorance of the most effectual means of soliciting the principle of life into action; as the employment of electricity, alcohol, volatile alkali, tobacco, essential oils, and all the acrid and stimulating substances. None of these, in our author's opinion, seem fitted to excite the natural contractions of the heart by direct agency: At the same time, he allows, that as some of these practices are now introduced on the authority of several learned Societies, experiment alone ought to decide concerning their efficacy. But, as far as his own experiments go, he thinks, that if we allow these remedies all the efficacy that partiality can claim, it can only be said, that they sometimes produce, by indirect means, what may always be done directly by the method he has before recommended.

That a preference may be due to the proper application of heat and inflation, we will not deny; but other practices, which in any degree contribute to the renewal of circulation or respiration, or to solicit the principle of life into action, should not, we think, be neglected; especially, as several of them can
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be had recourse to, in conjunction with the practices on which Dr Goodwyn places his chief reliance, and may even tend to assist their influence. Upon the whole, however, there can be little doubt, that, in the treatise before us, Dr Goodwyn has displayed much ingenuity and judgement, and has thrown great light upon the subject of which he treats.

VIII.

VIII.

An Essay on the Recovery of the apparently Dead.

By Charles Kite, Member of the Corporation of Surgeons in London, and Surgeon at Kent; being the Essay to which the Humane Society's Medal was adjudged. To which is prefixed Dr Lettsom's Address on the delivery of the Medal. 8vo, London.

THIS dissertation, as well as that of which we have just given an analysis, was also submitted to the consideration of the Humane Society of London, and by them honoured with a prize-medal; which, as appears from Dr Lettsom's address, prefixed to this work, was presented by that gentleman to the author, at the same time that he delivered their prize-medal to Dr Goodwyn; and in this, as well as in the former dissertation, the discerning reader will find many remarks well deserving his attention.

Mr.

Mr Kite sets out with observing, that he conceives the difference between what has been called suspended animation and positive death, to rest entirely on one circumstance,—the presence or absence of the principle of irritability. When it is present, though the appearances of death may be strong, and though the vital, natural, and animal functions may seem abolished, yet animation can only be said to be suspended; but when it is absent, the body is to be considered as absolutely and irrecoverably dead. The powers of life may be suspended by various causes; but our author observes, that, in the treatise before us, he means principally to consider drowning as being the cause of suspended animation which most frequently occurs.

In treating of this subject, he first proceeds to investigate the internal immediate cause of death, and the manner in which this is effected in those who die by drowning. The principal causes to which the death of drowned persons has been attributed, may, our author thinks, be comprehended in the four following: 1st, That species of apoplexy which arises from an over-distension of the stomach:

2^{dly},

2dly, The blood being rendered unfit for performing its offices, by the want of the action of the air in respiration: 3dly, Water in the lungs; and, 4thly, A contraction of parts about the larynx, preventing the air from passing into, or out of the lungs. After stating objections to the three former of these suppositions, he is inclined to adopt the last. But it still remains to enquire, in what manner this stoppage of respiration acts, so as to occasion death.

Some have supposed, that the stoppage of respiration produces death, from the inclosed air being rendered highly phlogisticated; others, that death happens from a suffocation, or congestion of blood about the heart and lungs; while a third set maintain, that death is to be ascribed to the induction of apoplexy. This last opinion Mr Kite endeavours to support by many arguments; and these, into the detail of which we cannot here propose to enter, he thinks so strong, as to satisfy even the greatest sceptic. We must however acknowledge, that notwithstanding all Mr Kite has said upon this subject, our doubts are by no means entirely removed; and notwithstanding the

the plausible arguments which have been brought in favour of his opinion, as well as of that of Dr Goodwyn, further observations and experiments, in our opinion, are still wanting, for ascertaining beyond all doubt the immediate cause of death from drowning.

Mr Kite next proceeds to make some observations on the uncertainty of recovery; and he endeavours to investigate the causes from which this uncertainty proceeds. In many instances, he observes, the causes producing a fatal termination are very obvious, such as excessive eating or drinking before the accident, previous disease, or the like. But, besides these circumstances, from his former reasoning upon the subject he concludes, that those who have any cause existing in their habit, which predisposes the body to a compressed state of the brain, or an apoplexy, will be the first to lose at least the appearance of vitality. Hence he enumerates the various predisposing and exciting causes of apoplexy; as, large heads, short necks, violent passion, intoxication, and the like, as being circumstances which will hasten a fatal conclusion. Besides these, although Mr Kite does not adopt the opinions of the ancients

cients respecting temperaments, yet he imagines that these temperaments may be established; of each of which he gives a particular description, under the titles of the *tonic*, the *atonic*, and the *irritable*.

Persons of the irritable constitution, are violently affected by causes making little impression either on the mind or body of those of a different constitution. Hence they will, he thinks, be much sooner destroyed by drowning, than those whose nerves are less delicate; and as the atonic constitution is less connected with apoplexy than the tonic, while the nervous system is not to be roused into such violent actions as in the irritable, this habit will, he thinks, allow of being longer under water than either of the former. But with respect to this disease, the irritable constitution, he observes, is not without its advantages; for it appears from many experiments, that the peculiar property of irritability is capable of being excited after death, with greater ease or difficulty, in proportion as the animal was more or less irritable in a state of health. Hence, while the irritable are most liable to be speedily drowned, they will also have a disposition
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to be speedily recovered : On the contrary, those of an atonic habit, as they are longer in drowning, will be longer before they are recovered. The observations and reasoning of Mr Kite on this subject, agree very much with those of Mr Bucquet, recorded in the *Memoirs of the Royal Society of Medicine of Paris* ; and, in our opinion, are in general well-founded.

Mr Kite next proceeds to enquire, whether there be any positive sign of the absolute extinction of life after drowning. After making some remarks on the stoppage of the pulse and respiration, on the glassiness of the eyes, on putrefaction, and other similar circumstances, which have been considered by some as certain indications of death ; Mr Kite gives it as his opinion, that no positive sign of the absolute extinction of life has hitherto been discovered. Death, he observes, may be distinguished into two species, apparent and absolute. By apparent death, he means a stoppage of circulation, respiration, and the action of the brain ; the irritability, however, or that peculiar property of the muscular fibres which enables them to contract on being irritated, still remaining.

maining. By absolute death, he understands not only a cessation of the vital, natural, and animal functions, but the entire destruction of the principle of irritability. Those signs, therefore, which indicate the total absence of irritability, may be deemed the most certain signs of death.

He is of opinion, that the pupil of the eye being contracted, especially if it has for some time before been observed to be much dilated; will, in cases of submersion, yield a pretty certain indication of death. He thinks also, that some dependence may be put on one of the pupils being more contracted than the other; as it is from this presumable, that the influence of the brain and nerves is entirely annihilated, and the irritable principle utterly destroyed. Death may also be inferred from a proof of the positive extinction of heat; when it is found that no change is induced in a thermometer introduced three or four inches into the rectum. Another mark, on which our author places dependence, is the proof of water in the lungs, which he thinks may be inferred from artificial respiration forcing away a quantity of frothy water by the mouth. But he con-

siders the electrical shock as affording the most discriminating characteristic of any remains of life. As long as it produces contractions, the person may be said to be in a recoverable state; but when that effect has ceased, no doubt, Mr Kite thinks, can remain of the person being absolutely and positively dead.

Mr Kite next proceeds to treat of the method of recovery; and into this subject he has entered at great length, presenting the reader with many important observations. But the nature of our work will not allow us to enter minutely into every particular. We shall therefore content ourselves with giving a general view of his plan of cure, which, at the end of his observations on this subject, he has thrown into the following tabular form.

In the recovery of persons apparently dead from drowning, there are two indications:

- I. To remove the compression of the brain, and congestion about the heart and lungs.
- II. To excite the irritability of the muscular fibres.

I. The removing the compression of the
brain,

brain, and congestion about the heart and lungs, may be effected by

1. Bleeding, either
 - a.* From the jugular veins, or
 - b.* Cupping and scarifications.
 2. Artificial respiration, with
 - a.* Common air,
 - b.* Warm air from the lungs,
 - c.* Dephlogisticated air,
 - d.* Air loaded with acrid and irritating effluvia; as,
 1. Of tobacco,
 2. Of volatile alkali,
 3. Of spirit of salt,
 4. Of spirit of sulphur.
 3. Proper position.
-

II. The exciting the irritability of the muscular fibres may be done by,

1. General stimulants; as,
 - a.* The proper application of heat, by
 1. Warm room,
 2. Warm bath,
 3. Warm grains,
 4. Natural warmth,
 5. Warm substances to various parts.

b. Electricity.

c. Frictions with

1. Coarse cloths,
2. Flannels,
3. Hair-cloth,
4. Brushes,
5. Camphorated oil,
6. Concentrated vinegar,
7. Volatile liniment,
8. Ardent spirits,
9. Mustard,
10. Common salt.

d. Gentle concussions.

2. Local stimulants.

a. Aromatic and irritating medicines
thrown into the stomach ; as,

1. Emetics,
2. Etherial spirits,
3. Essential oils,
4. Volatile alkali,
5. Ardent spirit.

b. Aromatic and irritating medicines in-
jected into the intestines ; as,

1. The oil, decoction, powder, or fume
of aromatic substances.

c. Particular

c. Particular stimuli adapted to different organs of sense ; as,

1. Light thrown on the eye, either that

aa. Of a taper, or

bb. Of the concentrated rays of the sun.

2. Great noises directed to the ears.

3. Acrid liquors applied to the tongue and fauces ; as,

aa. Volatile alkaline vapour,

bb. Juice of onions or garlic,

cc. Mustard or pepper.

4. Sternutatories applied to the nostrils ; as,

aa. Strong snuff,

bb. Volatile alkaline vapour.

5. Scarifications, or the actual cautery to the skin.

On these different practices Mr Kite has offered many observations ; and although we are not disposed to agree with him in every particular, as, for example, in his recommendation of blood-letting, even at an early period, yet his remarks in general appear to us to be very judicious and proper ; and most readers

may derive instruction from the perusal of them.

To the table which contains the general plan of cure, Mr Kite has annexed some others. In one of these we have a sketch of a plan for obtaining accurate histories of persons apparently dead from drowning. Here, however, in our opinion, he has descended to a minuteness, tending rather to embarrass than to be useful. He has pointed out upwards of two hundred particulars claiming attention in such histories, many of which, in by much the greatest number of cases, would tend only to lengthen the history, without serving any useful purpose. In another table he has given a view, extracted from the Reports of the Humane Society, of the length of time for which each patient had been under water, and the number of minutes required for his recovery; a view which, we are inclined to think, is neither void of curiosity nor utility.

After treating thus fully of the subject of drowning, Mr Kite next offers some observations on the suspension of the vital powers, from hanging. After mentioning the different ideas that have prevailed, and still conti-

nue to prevail, on this subject, Mr Kite cannot, he tells us, with Haller, De Haen, and others, admit the stoppage of respiration to be the sole cause; yet he does not hesitate in allowing it to be a principal one. But, in place of adopting the opinion of the authors mentioned above, who suppose that the cause of death resides in the chest, he joins in opinion with Boerhaave, Wepfer, Littre, and others, who attribute it to apoplexy. Where, therefore, attempts are made to recover persons after hanging, they are, he thinks, to be treated in precisely the same manner as those who suffer from drowning. Attempts should be made to remove the compression of the brain, and excite the irritability of the muscular fibres; and these ends are to be accomplished by the same means which have already been mentioned, when treating of the recovery of the drowned.

We have next some observations on the suspension of the vital powers, by noxious vapours. From a variety of circumstances, he is induced to believe, that mephitic air occasions apoplexy and death, in two ways; first, by affecting the nerves of the trachea, in

such a manner as to render the muscles, subservient to respiration, paralytic; and secondly, by its sedative property destroying the action of the brain and nervous system. In the treatment, our attention should, according to Mr Kite, be immediately directed to correcting and expelling such noxious vapours as may still remain in the lungs; and this, he tells us, is best done by inflating them with dephlogisticated or pure air. In other respects, the treatment of those suffocated by mephitic vapours, should be exactly conformable to the directions given for the recovery of the drowned.

In treating of the suspension of vital powers, from syncope, Mr Kite confines his observations to those who are in that state from loss of blood. Loss of blood, he thinks, probably does operate in many ways with which we are unacquainted, so as to assist in producing syncope; but it appears to arise more particularly from the want of a sufficient quantity of that fluid in the vessels of the head, to preserve the brain in a due degree of firmness and tension. In treating cases of this kind, the first object is to prevent
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any farther return of the expence of blood ; and then to produce such a contraction of the vessels as will make them act on the contained fluid. This, he thinks, is chiefly to be effected by the application of cold, by frictions, and by tight bandages. With a view also to excite the irritable principle, recourse may be had to the inflation of the lungs, the injection of aromatic or irritating medicines into the stomach, the dilatation of the intestines, by large quantities of cool liquids thrown into them, certain stimulants applied to different organs of sense, and the like.

Neither philosophers nor pathologists are altogether agreed as to the manner in which those people die who are killed by lightning. From considering all circumstances, Mr Kite is inclined to believe, that it exerts its principal effects on the brain and nervous system, in such a manner as materially to diminish, or totally to overthrow the principle of irritability ; but as, according to its degree of strength, it operates differently in producing these effects, he thinks it adviseable to divide them into the following classes : 1st, When the shock is moderate, it merely suspends the functions of life:

2^{dly},

2dly, When it is stronger, it destroys the principle of irritability; and, 3dly, When in the most violent degree, it lacerates those parts of the body through which the fluid passes.— Those only who come under the first class, can be considered as in a state from which a recovery can be expected. In recoverable cases, Mr Kite thinks that our attention should be chiefly directed towards exciting and restoring the principle of irritability. For this purpose, nothing seems to him better fitted than the application of electricity, the very agent which occasioned the evil; because, when moderately used, it is well known that it is the most powerful stimulus we can apply; that it pervades the internal as well as the external parts; and that, beyond every thing, it possesses the property of exciting the irritability of the muscular fibres. But, besides this, he thinks that benefit may also be derived from frictions, emetics, and indeed all the other remedies recommended for exciting the irritable principle in the drowned.

From the consideration of the advantages which have sometimes been derived from the operation of the trepan in cases of epilepsy, in
cases

cases of concussion of the brain without any external wound, and others of a similar nature, Mr Kite is prompted to suggest this operation as one that may be of some service in certain cases of suspended animation. He indeed acknowledges, that hitherto he has no experience of it; but at the same time he flatters himself, that the novelty of it will not prove any impediment to its receiving an impartial trial; since there can be no comparison between the inconvenience which may possibly arise from it, and the destruction which most probably will ensue, should that operation be omitted. We do not however suppose that Mr Kite has the most distant idea of postponing other practices, till he has tried the success of this; and although there are perhaps some circumstances in which this operation may be of advantage, yet we must own, we doubt much whether any case will ever be recovered by means of the trepan, which might not be recovered without it.

To these observations on different cases of suspended animation, Mr Kite adds a few remarks on the preservation of those unborn children who survive the death of the mother.

Of

Of these he thinks many might be preserved to society by the timely use of the Cæsarean operation. The only objection which in his opinion can be urged against it, is, that it may be performed when the mother is not really dead, but in a recoverable state. And this objection, to us, we own, appears a very strong one indeed ; for the life of a mother is very generally of so much more importance to society than that of an unborn infant, that even the most distant chance of the recovery of the former, is not to be relinquished from any expectation whatever with regard to the latter ; and when we read of great numbers of children preserved by this means at Montreal, Caltanissetta, Sambuca, and other places, it is, we think, highly probable, that the operation was in many instances precipitately had recourse to at a very improper time ; and that the efforts of the operator would have been much better employed in endeavouring to restore the life of the mother. When, however, an infant is born apparently in a dead state, we must give our most hearty assent to the recommendation of Mr Kite, that the proper means of restoring life to it are not to be neglected ; and it

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is, we think, with great propriety that he advises the application of these means, in every case where the cuticle is not detached, or where, upon the application of the electrical shock, the fibres exhibit any tendency to contraction.

To this treatise is added an appendix, containing a description of a pocket-case of instruments, for the recovery of the apparently dead. This description is illustrated by engravings, without which it would be impossible to convey to the reader any proper idea of it. We shall only observe, that the contrivance, a considerable part of the merit of which Mr Kite attributes to that able artist Mr Savigny, shews much ingenuity and judgment; and this apparatus cannot be too strongly recommended to those who are placed in situations where accidents from drowning frequently occur.

IX.

An Account of a Method of making a Wine called by the Tartars Koumifs; with Observations on its use in Medicine. By John Grieve, M. D. F. R. S. Ed. and late Physician to the Russian Army. Vide Transactions of the Royal Society of Edinburgh. Vol. I. 4to, Edinburgh.

DR GRIEVE sets out with observing, that in an age like the present, when few subjects in nature seem to have eluded the researches of philosophy, and when the communications of learning are as well established as those of commerce, it may appear surprising, that one of the most important productions of milk should still remain in a great measure unknown to the most enlightened parts of Europe. The production here alluded to, is a vinous liquor, which is procured by fermentation from mares milk.

This

This preparation has not been discovered by chemical knowledge, but has been taught to enlightened nations by a horde of Tartars, whose rank in society is not above that of Barbarians.

Even in Russia itself, it was with difficulty our author could learn the particulars of the preparation; and although it had been used for some ages by several tribes of people who belong to that empire, yet when Dr Grieve first began to think of employing it in medicine, in the year 1781, it was as little known in what is called Russia Proper, as in Great Britain. This neglect, our author thinks, is perhaps in part to be ascribed to the obscure relations of travellers, and in part to the system of pride which men of learning are too apt to indulge, in rejecting as incredible whatever does not coincide with their own preconceived opinions.

From the authors who have before mentioned it, Dr Grieve tells us, that but little information is to be derived. They all agree, that a vinous liquor from mares milk is used by some of the Tartar nations, under the name of Koumifs; but none of them enters
into

into a detail of the process by which it is prepared ; much less does any of them point out the purposes, either in œconomy or in medicine, to which it may be applied.

The following method of making Koumifs is practised by the Baschkir Tartars, who inhabit that part of the government of Orenbourg, which lies between the rivers Kama and Volga. It was communicated to Dr Grieve by a Russian nobleman who went into the country to drink it ; and as he resided there for a considerable time, he could not, our author thinks, be mistaken with respect to the process. This method of preparation Dr Grieve afterwards adopted in his own practice with success.

Take, says he, of fresh mares milk of one day, any quantity ; add to it a sixth part of water, and pour the mixture into a wooden vessel. Use then, as a ferment, an eighth part of the fourest cows milk that can be got ; but, at any future preparation, a small portion of old Koumifs will answer better the purpose of souring. Cover the vessel with a thick cloth, and set it in a place of moderate warmth ; leave it at rest twenty-four hours, at the end of which time the milk will have become sour,
and

and a thick substance will be gathered on the top. Then with a stick, made at the lower end in the manner of a churn-staff, beat it till the thick substance above-mentioned be blended intimately with the subjacent fluid. In this situation, leave it again at rest for twenty-four hours more ; after which, pour it into a higher and narrower vessel, resembling a churn, where the agitation must be repeated as before, till the liquor appear to be perfectly homogeneous ; and in this state it is called *Koumifs*. Its taste is a pleasant mixture of sweet and sour. Agitation must be employed every time before it be used.

To obtain the milk in sufficient quantity, the Tartars, he tells us, have a custom of separating the foal from the mare during the day, and allowing it to suck during the night. When the milk is to be drawn from the mare, which is generally done about five times a day, they always produce the foal, on the supposition that the mare yields her milk most copiously when it is present.

To the above account of the method of making *Koumifs*, Dr Grieve adds some other particulars, of which he was informed by dif-

ferent Tartars themselves. By one of them he was informed, that to prevent changing the vessel, the milk may be put at once into a pretty high and narrow vessel; and that in order to accelerate the fermentation, some warm milk may be added to it, and, if necessary, more souring. From another whom he met at the fair of Macarieff, upon the Volga, and from whom he purchased one of the leathern bags which are used by the Kalmucks for the preparation and carriage of their Koumifs, he learned, that the process may be much shortened, by heating the milk before the souring be added to it; and, as soon as the parts begin to separate, and a thick substance to rise to the top, by agitating it every hour, or oftener. He learned also, that it was common among some Tartars to prepare it in one day during Summer, and that with only two or three agitations; but that in Winter, when, from a deficiency of mares milk, they are obliged to add a greater quantity of that of cows, more agitation is necessary. Koumifs is commonly used within a few days after its preparation; but when well secured in close vessels, and kept in a cold place, it may be preserved for three months.

months, or even a longer time, without any injury of its qualities.

From all the accounts Dr Grieve could procure, it appeared to him, that three things are essential to the vinous fermentation of milk: These are, heat, souring, and agitation: Heat, he observes, is necessary to every species of fermentation; and souring is perhaps not less so, though not in every case in so sensible a degree as in the present. But the chief art of fermenting milk consists in agitation. In fermenting vegetable juices and infusions, Dr Grieve observes, that nature has no need of the assistance of art; the intestine motion which accompanies the fermentation being sufficient to produce the degree of agitation which seems necessary to keep the parts of the fluid in mutual contact, or to fit them for mutual action. But milk is no sooner soured, than a separation of its parts takes place. The cream rises to the top, while the cheese either falls to the bottom, or is suspended in the whey. When, however, these parts are brought into close contact with each other by agitation, and when this is repeated at proper intervals, a vinous liquor is produced.

After this account of the preparation of Koumifs, Dr Grieve next proceeds to make some remarks on its medical properties. As soon as he heard of it, he conceived an opinion of its importance in the cure of certain diseases. He imagined, that a preparation of milk which could not be curdled by the fluids of the stomach, while at the same time it possessed all its nutritive qualities, with the addition of a fermented spirit, might be of essential service in all those disorders where the body is defective either in nourishment or strength.

The first case in which he tried it, was that of the nobleman who communicated to him the process for preparing it. At the age of 26, this patient laboured under a complication of chronic complaints. A confirmed lues venerea, injudiciously treated with three successive salivations by mercury, added to bad management of himself under these, had given rise to his disease. His body was much emaciated; his face of a livid, yellow colour; his eyes were sunk; and round his eye-lids there was a dark shade. He felt a severe pain in his breast, which was accompanied with considerable cough, and mucous expectoration. His appetite and digestion
were

were much impaired ; he had frequent tremblings and faintings ; and he began to feel the symptoms of hectic fever. In short, his whole appearance was consumptive ; and he was so weak, that he required assistance to get into a carriage by which he was to be conveyed to Tartary, to drink Koumifs by Dr Grieve's advice.

After drinking Koumifs for only six weeks, he was perfectly freed from all the above symptoms, and was become so plump and fresh-coloured, that, at first sight, it was with difficulty his friends could recognize him. He informed Dr Grieve by letter, that the Koumifs had produced, even during the first days, a sudden and remarkable change ; that he ceased to be disturbed in his sleep ; that his nervous and dyspeptic symptoms left him ; that he felt as if his vessels had been distended with a fresh cooling liquor ; that he became cheerful ; that it served him both for food and drink ; and that though he used it to the quantity of a gallon and a half, and sometimes even more in twenty-four hours, yet he always drank it with pleasure, and not without intoxication ; that his body, during its use,

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was

was regularly open; but that his urine was so much increased, that he was usually excited to make water every hour.

The next case in which Dr Grieve employed it, although not so desperate as the former, gave, however, sufficient proofs both of its nutritive and strengthening qualities. A lady who had witnessed its uncommon efficacy in the case mentioned above, was encouraged to try it in her own. It was not convenient for her to go to Tartary; and therefore, she had it sent to her, well secured in casks, during the Autumn. She had been long subject to a train of nervous disorders, by which she was much extenuated, and reduced to a state of extreme weakness and irritability. She used the Koumiss for about a month; at the end of which time, the functions of her nervous system were restored; and, with health and vigour, she acquired plumpness and a fresh complexion.

The year following, Dr Grieve had an opportunity of trying it under his own eye, at Nischne-Novogorod, in the case of a young man who had all the symptoms of incipient phthisis. He was affected with pain of his
breast,

breast, dry cough, occasional hæmoptysis, and great emaciation. He was not, however, become hectic. Two elder brothers of his had died of true pulmonary consumptions. He had taken many medicines in a different part of the country, and had observed a strict antiphlogistic regimen; but though milk constituted the greatest part of his diet, there were no signs of recovery. He drank Koumiks for about two months only, and that in rather an unfavourable season; but the consequence was, that all the above symptoms disappeared, and his flesh and strength returned; nor was there any reason to apprehend a relapse, when Dr Grieve left Russia.

Nearly about the same time that it was employed in the above case, Dr Grieve advised its use to another young nobleman, who laboured under an abscess in the left side, about the twelfth rib. As he had resided in a remote part of the country, no attention had at first been paid to it: On the contrary, by improper applications, the sides of the ulcer were become hard. He had lost his flesh and strength; he had occasional faintings; and

there were all the appearances of incipient hectic. By the use of Koumifs for about six weeks, proper chirurgical dressings being at the same time applied, his health was perfectly re-established.

Besides these, Dr Grieve directed it also in some other cases; but as they were less important, he thinks it unnecessary to detail them. He observes in general, that all those who drank it, agreed in saying, that, during its use, they had little appetite for other food; that they drank it in very large quantities, not only without disgust, but with pleasure; that it rendered their veins turgid, without producing languor; that, on the contrary, they soon acquired from it an uncommon degree of sprightliness and vivacity; and that, even in cases of some excess, it was not followed by indigestion, headach, or any of those symptoms which usually attend the abuse of other fermented liquors. And he further adds, that the Baschkir Tartars, who, towards the end of winter, are much emaciated, no sooner return, in summer, to the use of the Koumifs, than they become strong and fat.

From

From all these observations, Dr Grieve thinks himself entitled to infer, that this wine of mares milk may be applied to many useful purposes in medicine. From the mild acid it contains, it may, he thinks, be considered as a cooling antiseptic; from its vinous spirit, it may become an useful stimulant, cordial, and tonic; and from its oily and mucilaginous parts, it may prove a valuable article of nourishment: And, in short, he is of opinion, that a substance of easy digestion, which at once strengthens the stomach, and nourishes the body, may become a powerful remedy in almost all chronic cases; while, in acute diseases, especially those of the febrile kind, attended with symptoms of weakness and putridity, it may be found, from its antiseptic and tonic powers, to be an useful corrector and restorative.

If Koumifs should be determined, by future experience, to be productive of the effects here suggested, Dr Grieve observes, that the scarcity of mares milk in Britain, would greatly circumscribe its utility. Hence inquiries will naturally be made, whether other species of milk admit of a similar vinous fermentation;

tion ; and what proportion of spirit they contain. But as he had never paid particular attention to this subject himself, he here adds the substance of what he had been able to learn from others, respecting the most common milk, that of cows.

Dr Pallas, in a late publication, affirms, that cows milk is also susceptible of the vinous fermentation, and that the Tartars prepare a wine from it in Winter, when mares milk fails them: that to the wine prepared from cows milk, they give the name of *Airen* ; but that they always prefer *Koumifs* when it can be got, as it is more agreeable, and contains a greater quantity of spirit. According to Dr Pallas, *Koumifs* yields, on distillation, a weak spirit to the extent of one third of its whole quantity ; while *Airen* yields it only to the extent of one ninth. To this spirit they give the name of *Arika*.

A dissertation has lately been published on the ardent spirit which may be obtained from cows milk, by Dr Oseretzkowsky who accompanied M. Lepechin and other academicians in their travels through Siberia and Tartary. From his experiments, it appears, that cows
milk

milk may be fermented with, or even without souring, provided sufficient time and agitation be employed; that no spirit could be procured from any one of its constituent parts taken separately, nor from any two of them, unless when mixed with some part of the third; that the milk with all its parts in the natural proportion was the most productive of it; that the closer it was kept, or, which is the same thing, the more difficultly the fixed air is allowed to escape during the fermentation, care however being taken not to endanger the bursting of the vessel, the more ardent spirit is obtained. He also found, that it had a sourer smell before, than after agitation; that the quantity of spirit was increased by allowing the fermented liquor to remain at rest for some time before distillation; that from six pints of milk fermented in a close vessel, and thus set at rest, three ounces of ardent spirit, of which one was consumed in burning, could be obtained; but from the same quantity of the same milk, fermented in an open vessel, he could scarcely obtain one ounce of spirit.

These

These particulars, it is not improbable, may even throw some light on fermentation in general ; a subject very obscure, and hitherto but imperfectly understood. But Dr Grieve's principal intention was, to point out to physicians what appeared to him a powerful means, which may be employed on many occasions in the cure of diseases. And if the Koumifs, or any substitute for it which may be had in Britain, shall here be found productive of those good effects which Dr Grieve alleges, its introduction may justly be considered as an important improvement in the healing art.

X.

Theory of the Earth, or an Investigation of the Laws observable in the Composition, Dissolution, and Restoration of Land upon the Globe. By James Hutton, M. D. F. R. S. Ed. and Member of the Royal Academy of Agriculture at Paris. Vide Transactions of the Royal Society of Edinburgh. Vol. I. 4to, Edinburgh.

THE object which the ingenious author has in view, in the dissertation before us, is to form some estimate with regard to the length of time for which the globe of this earth has existed as a world, maintaining plants and animals. He endeavours to reason with regard to the changes which the earth has undergone, and to see how far an end or termination of this system of things may be perceived, from the consideration of that which has already come to pass.

As it is not in human record, but in natural history, that we are to look for the means of ascertaining

ascertaining what has already been, he proposes to examine the appearances of the earth, in order to be informed of the operations which have been transacted in time past. It is thus that, from the principles of natural philosophy, we may arrive at some knowledge of order and system in the œconomy of this globe, and may form a rational opinion with regard to the course of nature, or to events which are in time to happen.

The solid parts of the present land appear, in general, to have been composed of the productions of the sea, and of other materials similar to those now found upon the shores. Hence he thinks we have reason to draw the following conclusions: *1st*, That the land on which we rest, is not simple and original, but that it is a composition, and had been formed by the operation of second causes: *2^{dly}*, That before the present world was made, there had subsisted a world composed of sea and land, in which there were tides and currents, with such operations at the bottom of the sea as now take place: and, *lastly*, That while the present land was forming at the bottom of the ocean, the former land maintained plants and animals; at least,

least, the sea was then inhabited by animals, in a similar manner to what it is at present.

Hence we are led to conclude, that the greater part of our land, if not the whole, had been produced by operations natural to this globe; but that, in order to make this land a permanent body, resisting the operations of the water, two things had been required: *1st*, The consolidation of masses formed by collections of loose or incoherent materials; and, *2dly*, The elevation of those consolidated masses from the bottom of the sea, the place where they were collected, to the stations in which they now remain, above the level of the ocean.

Here are two different changes, which serve mutually to throw some light upon each other; for as the same subject has been made to undergo both these changes, and as it is from the examination of this subject that we are to learn the nature of these events, the knowledge of the one may lead us to some understanding of the other.

Thus the subject is considered as naturally divided into two branches, to be separately examined: *1st*, By what natural operations strata of loose materials had been formed into solid masses;

masses ; and, 2dly, By what power of nature the consolidated strata at the bottom of the sea had been transformed into land.

With regard to the *first* of these, the consolidation of strata, there are two ways, Dr Hutton thinks, in which this operation may be conceived to have been performed ; *first*, By means of the solution of bodies in water, and the after concretion of these dissolved substances, when separated from their solvent ; or, *secondly*, from the fusion of bodies by means of heat, and the subsequent congelation of these consolidating substances.

With regard to the operation of water, it is *first* considered, how far the power of this solvent, acting in the natural situation of these strata, might be sufficient to produce the effect : and here it is found, that water alone, without some other agent, cannot be supposed capable of inducing solidity among the materials of strata in that situation. It is, in the *second* place, considered how far, supposing water capable of consolidating the strata in that situation, it might be concluded, from examining natural appearances, that this had actually been the case. Here, again, having proceeded upon

on this principle, that water could only consolidate strata with such substances as it has the power of dissolving, and having found strata consolidated with every species of substance, it is concluded, that strata in general have not been consolidated by means of aqueous solution.

With regard to the other probable means, heat and fusion, these he finds to be perfectly competent for producing the end in view; as every kind of substance may, by heat, be rendered soft, or brought into fusion, and as strata are actually found consolidated with every different species of substance.

Dr Hutton then enters into a more particular discussion. He considers consolidating substances as being classed under two different heads, viz. siliceous and sulphureous bodies, with a view to prove that it could not be by means of aqueous solution, that strata had been consolidated with these particular substances, but that their consolidation had been accomplished by means of heat and fusion.

He next considers Sal Gem as being a substance soluble in water, in order to show that this body had been last in a melted state. And

this example is confirmed by one of fossile alkali. The case of particular septaria of iron-stone, as well as certain crystallized cavities in mineral bodies, are then given as examples of a similar fact, and as containing, of themselves, a demonstration, that all the various mineral substances had been concreted and crystallized immediately from a state of fusion.

Having thus proved the actual fusion of the substances with which strata had been consolidated, in having such fluid bodies introduced among their interstices, he next considers the case of strata, consolidated by means of the simple fusion of their proper materials; and examples are taken from the most general strata of the globe, viz. siliceous and calcareous. Here also demonstration is given, that this consolidating operation had been performed by means of fusion.

Having come to this general conclusion, that heat and fusion, not aqueous solution, had preceded the consolidation of the loose materials collected at the bottom of the sea, he next examines these consolidated strata in general, in order to discover other appearances, by which the doctrine may be either confirmed

ed or refuted. Here the changes of strata from their natural states of continuity by veins and fissures are considered; and the clearest evidence is hence deduced, that the strata have been consolidated by means of fusion, and not by aqueous solution; for, not only the strata are in general found intersected with veins and cutters, an appearance inconsistent with their having been consolidated simply by previous solution, but in proportion as strata are more or less consolidated, they are found with the proper corresponding appearances of veins and fissures.

With regard to the *second* branch, in considering by what power the consolidated strata had been transformed into land, or raised above the level of the sea, Dr Hutton supposes, that the same power of extreme heat, by which every different mineral substance had been brought into a melted state, might be capable of producing an expansive force sufficient for elevating the land from the bottom of the ocean to the place it now occupies, above the surface of the sea. Here we are again referred to nature, in examining how far the strata formed by successive sediments, or accumula-

tions deposited at the bottom of the sea, are to be found in that regular state which would necessarily take place in their original production; or whether, on the other hand, they are actually changed in their natural situation, broken, twisted and confounded, as might be expected from the operation of subterranean heat, and violent expansion. But as strata are actually found in every degree of fracture, flexure, and contortion, consistent with this last supposition, and with no other, we are led to conclude, that our land had been raised above the surface of the sea in order to become a habitable world, as well as that it had been consolidated by means of the same power of subterranean heat, in order to remain above the level of the sea, and to resist the violent efforts of the ocean.

This theory is next confirmed by the examination of mineral veins, those great fissures of the earth which contain matter perfectly foreign to the strata they traverse, matter evidently derived from the mineral region; that is, from the place where the active power of fire, and the expansive force of heat reside.

Such

Such being considered as the operations of the mineral region, we are hence directed to look for the manifestation of this power and force in the appearances of nature. It is here we find eruptions of ignited matter from the scattered volcanoes of the globe; and these we conclude to be the effects of such a power precisely as that now enquired after. Volcanoes are thus considered as the proper discharges of a superfluous or redundant power; not as things accidental in the course of nature, but as useful for the safety of mankind, and as forming a natural ingredient in the constitution of the globe.

The doctrine is then confirmed, by examining this earth, and by finding, every where, exclusive of the many marks of ancient volcanoes, abundance of subterraneous or unerupted lava, in the basaltic rocks, the Swedish trap, the toad-stone, rag-stone and whin-stone of Great Britain and Ireland, of which particular examples are cited, and a description given of the three different shapes in which that unerupted lava is found. The peculiar nature of this subterraneous lava is then examined, and a clear distinction is formed between

this basaltic rock and the common volcanic lavas.

Lastly, The extension of this theory, respecting mineral strata, to all parts of the globe, is made by finding a perfect similarity in the solid land through all the earth ; although, in particular places, it be attended with peculiar productions, with which the present inquiry is not concerned.

A theory is thus formed with regard to the mineral system. According to this system, hard and solid bodies are to be formed from soft bodies, from loose and incoherent materials collected together at the bottom of the sea ; and the bottom of the ocean is to be made to change its place with relation to the centre of the earth, to be formed into land above the level of the sea, and to become a country fertile and inhabited.

That there is nothing visionary in this theory, appears from its having been rationally deduced from natural events ; from things which have already happened ; things which have left, in the particular constitutions of bodies, proper traces of the manner of their production ; and things which may be examined
with

with all the accuracy, or reasoned upon with all the light, which science can afford. As it is only by employing science in this manner, that philosophy enlightens man with the knowledge of that wisdom or design which is to be found in nature, this system now proposed, from unquestionable principles, will claim the attention of scientific men, and may be admitted in our speculations with regard to the works of nature, even although many steps in the progress may remain unknown.

By thus proceeding upon investigated principles we are led to conclude, that if this part of the earth which we now inhabit had been produced, in the course of time, from the materials of a former earth, we should, in the examination of our land, find data from which to reason with regard to the nature of that world which had existed during the period of time in which the present earth was forming ; and thus we might be brought to understand the nature of that earth which had preceded this, and how far it had been similar to the present, in producing plants and nourishing animals. But this interesting point is perfectly ascertained, by finding abundance of every

manner of vegetable production, as well as of the several species of marine bodies, in the strata of our earth.

Having thus ascertained a regular system, in which the present land of the globe had been first formed at the bottom of the ocean, and then raised above the surface of the sea, a question naturally occurs with regard to the space of time necessary for accomplishing this great work.

In order to form a judgment concerning this matter, our attention is directed to another progress in the system of the globe; that is, the destruction of the land which had preceded that on which we now dwell. Now, for this purpose, we have the actual decay of the present land, a thing constantly transacting in our view, by which we may form an estimate. This decay is the gradual ablution of our soil by the floods of rain, and the attrition of the shores by the agitation of the waves. If we could measure the progress of the present land towards its dissolution by attrition, and its submersion in the ocean, we might discover the actual duration of a former earth; an earth which had supported plants
and

and animals, and had supplied the ocean with those materials which the construction of the present earth required; consequently, we should have the measure of a corresponding space of time, that, viz. which had been required in the production of the present land. If, on the contrary, no period can be fixed for the duration or destruction of the present earth, from our observations of those natural operations, which, though unmeasurable, admit of no doubt, we shall be warranted in drawing the following conclusions: *First*, That it had required an indefinite space of time to have produced the land which now appears; *secondly*, That an equal space had been employed upon the construction of that former land, from whence the materials of the present came; and, *lastly*, That there is at present lying at the bottom of the ocean the foundation of future land, which is to appear after an indefinite space of time.

But as there is not in human observation proper means for measuring the waste of land upon the globe, it is hence inferred, that we cannot estimate the duration of what we see at present, nor calculate the period at which

it

it had begun ; so that, with respect to human observation, this world has neither a beginning nor an end, ascertained upon any probable ground.

In the conclusion of this essay, Dr Hutton endeavours to support his theory by an argument of a moral nature, drawn from the consideration of a final cause. Here a comparison is formed between the present theory, and those by which there is necessarily implied either evil or discord in the nature of things ; and an argument is formed upon the wisdom of Nature, for the justness of a theory in which perfect order is to be perceived.

For, according to the theory which has now been proposed, a soil adapted to the growth of plants is necessarily prepared, and carefully preserved ; and in the necessary waste of land which is inhabited, the foundation is laid for future continents, in order to support the system of this living world.

Thus, in supposing Nature to be wise and good, an argument is afforded in confirmation of the theory ; and from supposing the theory to be just, an argument may be drawn in proof of the wisdom and benevolence which are to

be perceived in Nature. In this manner there is opened to our view a subject interesting to every man who thinks ; a subject on which we may reason with relation to the system of nature ; and one which may afford to the human mind both information and entertainment.

IX.

XI.

Jo. Fred. Blumenbachii *Specimen Physiologiæ comparatæ inter Animantia calidi Sanguinis Vivipara et Ovipara. Vide Commentationes Societatis Regiæ Scientiarum Gottingensis, ad Annos 1787 et 1788. Vol. IX. 4to, Gottingæ.*

SOME years ago, the ingenious author of the dissertation now before us, published, in a former volume of the Gottingen Transactions, some observations on the comparative physiology of what are called animals of cold and of hot blood, when put in contradistinction to each other. And in the prosecution of the same subject, he here institutes a comparison between those belonging to the latter tribe, which are of the viviparous, and those which are of the oviparous kind.

This inquiry, he thinks, may particularly serve to illustrate the natural history of birds, which

which in their phyfiology differ in many important particulars from other animals. For while they differ from almoſt all other animals of red blood, in being covered with a plumage, ſo alſo in the internal ſtructure of the parts; and in the functions of theſe they exhibit ſo remarkable a diſcrepancy, as to conſtitute what may almoſt be conſidered as an anomalous claſs of the organic world.

In the proſecution of this ſubject, he firſt offers ſome obſervations on the genital functions of animals of warm blood; next, on the vital; then, on the natural; and, laſtly, on the animal functions.

On the firſt of theſe ſubjects he obſerves, it is well known, that after fruitful coition in women, and other females of the tribe of mammalia, a bloody fiſſure is to be found in one of the ovaria, from a rupture during the venereal orgaſm, of one of thoſe veſicles which De Graaf conſidered as real ova; and that this ſlight wound, in progreſs of time, aſſumed the form of an elegant vaſcular cicatrix, which, ſince the days of Malpighi, has had the name of *corpus luteum*.

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It has been a matter of keen dispute among modern physiologists, whether corpora lutea are ever to be met with unless after coition or not? Dr Haller is a strenuous advocate for the latter of these opinions, Buffon for the former; and while Haller affirms, that, in all his dissections of females of the tribe of mammalia, he never could discover them unless in those who had been pregnant, the opinion of Buffon is supported by the dissections of Vallisneri, Santorini, and Bertrandi, three Italian professors, who contend, that they have discovered them on the dissection of females of the human species, who, there was the strongest reason for believing, had never had any connection with a male.

This question, our author thinks, may in some degree be solved, by attending to the physiology of fowls. The ovaria and tube of birds, excepting in the single circumstance, that they are simple only, not divided, as in other animals, one on the right, another on the left, agree in every other particular with those of the mammalia, and admit of an easy comparison. The yolk of the egg, as long as it remains in the ovarium, is contained within

its

its membranous calyx, in the same manner as the ova of De Graaf are surrounded by the common teguments of the ovaria. But when the yolk has made a certain progress, it bursts from its calyx, is received by the infundibulum, and enters the oviduct, in the same manner as it is probable that the gelatinous fluid of the ovarium is received by the fringed extremity of the tube, and propelled through it. The flaccid calyx in fowls, when deprived of its yolk, may justly be compared to the corpus luteum in the mammalia.

It is however on all hands allowed, that all the changes mentioned, happen to females of the fowl tribe, although they have never had any connection with a male, and that they lay addle eggs, as they have been called, in every respect similar to real ones, excepting that they are barren, and altogether unfit for incubation. It is no less true, Mr Blumenbach observes, that fowls may conceive these addle eggs without the male, by mere titillation of the genitals. This, as well as their libidinous disposition, was particularly observed both by Aristotle and by Harvey; the latter of whom found their venereal appetite to be so strong,
that

that upon gently stroaking their backs, they immediately threw themselves into a procumbent posture, with the uterine orifice bare and erected; and, on the slightest titillation with the finger, by a murmuring noise, and motion of the wings, they gave evidence that they enjoyed all the pleasures of venery.

Mr Blumenbach implores the forgiveness of the manes of those virgins, whose dissections are referred to by Vallisneri and others, for supposing that in them corpora lutea had been formed in the ovaria by a similar process. This he thinks might, in the ovaria of young girls, not less than in that of fowls, be effected by lascivious artifice, as well as by the aid of a male; and this suspicion is, he thinks confirmed, by the appearance of corpora lutea being only observed in virgins somewhat advanced; as in those about their fourteenth year, in those who were hysteric, and the like.

From this conjecture, he observes, the reason is evident, why these corpora lutea, or calyces, are discovered only in females of the human species, and in birds, who have had no connection with a male. They have never been observed in quadrupeds unconnected with
a male;

a male; which our author ascribes to there being, in the cases of these animals, no other stimulus, excepting real coition, which can have the effect here mentioned. Hence the reasoning of the illustrious Haller and his followers, who held that, these bodies never appeared unless from conception, is, our author thinks, at least highly excusable.

After these observations, he proceeds to make some remarks on the hatching of eggs, which, after they are laid by the mother, is effected either by incubation, or by any similar heat, in a manner analogous to the progress of the foetus in the uterus of the mammalia. But this process in incubation, differs remarkably, in many particulars, from what is observed in the case of the viviparous embryo.

The first appearance of the tender chick, differs exceedingly from what is afterwards visible in the progress of incubation. On the contrary, the tender embryo of the mammalia, though existing only under the form of a tremulous jelly, or having the appearance of a maggot, does not undergo the same metamorphosis of form, either in the general habit of its body, or in the formation of its viscera.

As an example, he compares the punctum fa-liens of the incubated chick with the tender rudiments of the heart in the mammalia; and, to the remarkable changes which the former undergoes, he ascribes the monstrous conformation so frequently observed in the hearts of birds.

Besides this, the complete formation of the parts in the foetus of the mammalia, makes a much quicker progress, and sooner arrives at perfection, than in the incubated chick. As an example of this, he mentions the formation of the ribs. No traces of these have been discovered in the chick before the end of the eighth day. But this term corresponds, in the human species, with the beginning of the sixteenth week of pregnancy. Mr Blumenbach, however, in his anatomical collection, has preparations of human foetuses hardly larger than an ant, and whose age, for certain, did not exceed the fifth week after conception, in which the cartilaginous rudiments of the ribs distinctly appear.

Of the analogy which subsists between the nutrition of the chick in ovo, and of the human foetus, at least in its earliest stages, he observes,

ferences, that the umbilical vesicula of the mammalia agrees in many particulars with the vitellary sac in fowls; and he thinks it probable, that this vesicle contributes to the first nutrition of the gelatinous embryo, before it be so far advanced as to be nourished by the maternal blood.

The time for which the chick remains in ovo, seems to be much more variable than that of gestation in the gravid mammalia, and is much less circumscribed within a stated period. Thus, in hens eggs particularly, if artificial heat be employed, the hatching varies from eighteen to twenty-four days, particularly as the heat has been more or less intense.

The last remarkable difference which is pointed out between the chick and the foetus of the mammalia when arrived at maturity, is the power which the former possesses. It is of itself able to break the shell in which it has hitherto been inclosed, and to make way for its exit. But the human foetus, on the contrary, when arrived at maturity, cannot, in the smallest degree, contribute to its own liberation.

After these remarks on the generative, the author next proceeds to make some observations on the vital functions. A remarkable difference, he observes, takes place between the circulation through the lungs in the birds and mammalia. While the lungs of fowls are proportionably small, and are attached to the vertebræ of the thorax, to the ribs, and to the intercostal muscles, they are at the same time perforated with remarkable openings into various receptacles of air, and therefore are not so considerably inflated by inspiration as the lungs of the mammalia. By this means it might be imagined, that the passage of blood coming from the right ventricle of the heart would be obstructed. But Mr Blumenbach is of opinion, that a peculiar mechanism in the fabric of the right ventricle, in which all the tribe of birds differ from the mammalia, is the contrivance by which this want of inflation of the lungs is supplied. His description of this mechanism, which consists of a fleshy valve of considerable size and strength, is illustrated by an engraving, without which the description itself would be unintelligible, and which, therefore,

therefore, cannot with propriety be introduced into our work.

The numerous adhesions of the lungs in fowls, and the small dilatation which takes place in inspiration, is, Mr Blumenbach thinks, the reason why the brain is not, in them, subjected to an alternate rising and falling, on inspiration and expiration, as in the mammalia.

With regard to the receptacles of air in birds, on account of which, as has already been said, Nature has provided a peculiar structure of the heart, the abdominal bladders seem chiefly to claim attention; because, besides their use in common with the other receptacles, they supply, as it were, the want of an abdominal pressure in birds, for the excretion of fæces, and the laying of eggs.

In singing birds, in particular, it may often be observed, that when they discharge fæces, the abdomen is rather swelled than drawn inwards; a proof that the abdominal bladders are then inflated by air inspired, and that thus, from a pressure of the intestines, the rectum is emulged.

As in the organs of respiration, so likewise in those of voice, the warm oviparous animals

differ very considerably from the viviparous, which particularly appears in the structure of the larynx. Besides, it deserves to be mentioned, that, in the bird tribe, the organs of voice of many of the males differ essentially from those of females of the same species. Some difference, indeed, in this respect, is observable even in the mammalia; but there, the difference is only in the proportion of parts; whereas, in birds, a difference in structure often occurs; and in some, even the course of the aspera arteria in the males is different from what it is in the females.

A few observations are next offered on the natural functions. In the organs employed in the digestion of food, the first striking difference is, that the whole class of birds are deprived of teeth. But, on the other hand, birds enjoy a prerogative not granted to any of the mammalia, a motion, to a greater or less degree, of the upper jaw. Granivorous fowls have a triple stomach, which is compared with the quadruple stomach of some of the ruminant animals. Notice is next taken of the stones which birds swallow, to facilitate the action of the stomach; and our author holds in deserved contempt
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the opinion of those who contend, that it is done from mere stupidity. He observes, that among the carnivorous birds, some have a singularity which takes place in none of the mammalia, the faculty, viz. of discharging by natural vomiting what they cannot digest; as the feathers, integuments, and, in some cases, the bones of animals.

To conclude this essay, Mr Blumenbach offers some remarks on certain animal functions, in which birds differ from the mammalia. The fountain or source of these, the brain itself, is well known to have in birds a very different structure from that of the mammalia, especially with respect to its particular parts. But as we have not hitherto been able to discover with certainty the use of any one particular part of the brain, he thinks it unnecessary to say any thing with respect to these; and proceeds to treat of the different senses.

The sense of touch, in the strict acceptation of the term, is, he observes, confined to but few animals, and particularly is to be met with in but few of the mammalia. In a similar manner, there are but very few of the tribe of birds who can be

said to possess the genuine sense of touch. In the goose tribe, however, this sense, in the opinion of Mr Blumenbach, exists in a very considerable degree. But the organ of touch, in them, is not in the feet : It is, according to our author, in the skinny integument of the bill. By dissection, he has traced three large branches of the fifth pair of nerves distributed on this skin ; and of these he has given a plate, with the view of more distinctly pointing out their course. But he has inferred the sense of touch in this organ, not so much from dissection as from observation. He has often remarked, in the living animal, the great sensibility of this integument, so copiously supplied with nerves ; and he has often observed, that, in swimming in dirty pools in quest of food, they use their bill for the examination of matters presented to them, in the same manner as the human species do their fingers.

In the organs of taste, a much greater variety exists among the tribe of birds, than among the mammalia ; for, among the latter, there is no species which is not furnished with a fleshy, and, in a greater or less degree, a soft tongue.

tongue. All of them, therefore, may be inferred to possess the genuine sense of taste. But, on the other hand, the diversity which takes place in the tongues of birds, is astonishing. Many of these are of such a rigid and horny consistence, that it is highly improbable the stimulus of taste can there be excited. To compensate this, however, in birds having such tongues, the palate seems to be endowed with peculiar sensibility, and is furnished with a large proportion of nerves, particularly from the first branch of the fifth pair.

Among birds, in no less degree than among the mammalia, the structure of the organs of smell differs very considerably; and in an equal degree is there a variety in the acuteness of smell in both classes.

It is wonderful, Mr Blumenbach observes, how much the ears of birds differ from those of the mammalia. In the first place, without exception they are deprived of the external cartilaginous part of the ear, so universal among the mammalia. But, besides this, there are also many peculiarities in the structure of the internal ear, such as the membrane of the tympanum being convex outwards; and many varieties with respect to the bones of the ear.

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To compensate, however, the want of an external ear in birds, they are very generally furnished with a most elegant disposition of feathers, furrounding the meatus auditorius. These, placed like diverging radii, seem to be peculiarly calculated for the reception of sound.

Finally, with respect to the eyes of birds, these, Mr Blumenbach observes, universally possess different parts, which the organs of vision in the mammalia totally want. As examples, he mentions the bony ring of the sclerotic membrane, the folded comblike appearance of the vitreous humour, and the like. But, while they thus possess many peculiarities; so, in the structure of other parts in common to both, many striking singularities occur; and these, the author thinks, tend to throw no inconsiderable light upon many controversies which have hitherto subsisted with respect to vision in the mammalia, where the structure left physiologists in a state of obscurity. As an example, he mentions, that, in some birds, the iris appears beyond all dispute to be a membrane totally distinct from the choroid coat.

Upon

Upon the whole, it appears, that, from the comparifon before us, the animal œconomy is, in many different particulars, illustrated and explained; and there can be no doubt, that, by the present, as well as former effays, the ingenious author has increafed our knowledge of the philofophy of the human body.

XII.

Henr. Aug. Wrisbergii *Observationes Anatomico-medicæ de Systemate Vasorum absorbente, morbos vicissim excitante et sanante. Vide Commentationes Societatis Regiæ Gottingensis, ad Annos 1787 et 1788. 4to, Gottingæ.*

AFTER some preliminary observations on the advantages which medicine derives from anatomy and pathology, the ingenious author gives it as his opinion, that, both with respect to pathology and practice, one fourth of the diseases to which the human body is subjected, depend, either in a direct or indirect manner, on the system of absorbent vessels. The observations which he offers upon this subject, are referred to four heads: 1st, What are the diseases arising from affections of the lymphatic system: 2^{dly}, What are the affections and injuries to which the lymphatic system is subjected: 3^{dly}, What are the diseases, which,

which, by the aid of the lymphatics, may be either alleviated or cured: *4thly*, What are the most efficacious remedies for correcting morbid affections of the lymphatic system.

There are, Dr Wrisberg observes, three kinds of affections, which chiefly arise from the want of a due operation of the lymphatics: *1st*, Those depending on obstruction to the course of absorbed fluids; *2dly*, Those depending on too great a secretion of the finer fluids from the common mass; and, *3dly*, Those depending on the function of absorption being either stopped or diminished.

Obstruction to the course of absorbed fluids, may arise from external compression on the lymphatics, from internal compression, or from a spasmodic stricture of the trunks of the larger lymphatics. Each of these the author illustrates, by many examples and observations, drawn particularly from affections of the dropical kind.

A superabundant secretion of lymph or serum from the blood, has, our author observes, been long established by unquestionable observations; but the causes from which it arises,

are

are not, he observes, by any means properly ascertained; and hence the difficulty of adapting to these, proper remedies. An effusion of such fluids not unfrequently takes place in those passages and cavities in the lungs fitted for the reception of air. Different acrid matters floating in the atmosphere, stimulate the whole surface of this sensible canal, from the nose and fauces, even to the most remote pulmonary vesicles; and thus an obstinate catarrhal defluxion takes place. As a remarkable example of this, Dr Wrisberg mentions the catarrh not long since originating in Russia, which raged over all Europe, and was known by the name of *Influenza*. In this case, the discharge, he thinks, consisted principally of pure lymph, with but a slight mixture of mucus; although he allows, that, towards the end of the disease, it sometimes assumed even a purulent nature. This affection, which had formerly been ascribed to suppressed perspiration, or similar causes, he is inclined to attribute to a peculiar saline matter, furnished from the earth of the northern regions, and acting upon the trachea, and other sensible parts, to which it may be carried by inspiration. This
opinion,

opinion, however, is, we think, equally liable to insurmountable objections with those formerly entertained; and, from many phænomena attending the disease, we are inclined to conclude, that in every instance it depends upon a contagion communicated from one body to another, whatever the nature or mode of operation of that contagion may be.

A great variety of irritations applied to the alimentary canal, produce there an uncommon separation of watery fluid; and in consequence of the too great expence of this useful fluid, the human frame is shaken in its very foundations. Among other causes producing such a separation, Dr Wrisberg mentions the frequent use of neutral salts, the abuse of aromatics, the irritation arising from worms, from bile, and other similar matters.

Irritations similar to those acting upon the lungs and alimentary canal, may likewise act upon the urinary organs; and thus a discharge may take place of the lymphatic part of the blood. As examples of these, he mentions cases of diabetes and of gonorrhœa. It is also, he observes, well known, that into all the large cavities, a subtle fluid, chiefly of a lymphatic

phatic nature, is separated; and unless it be poured out either in too great quantity, or not duly absorbed, it cannot pass into a morbid collection; but, from either of these circumstances, dropsy may arise. Thus, such an affection is sometimes, he observes, induced from the suppression of insensible perspiration, or of urine; and, in that case, the fluid collected is of a watery nature. In other cases, it may arise from too copious a secretion of lymph into the cavities, when again it is more of a coagulable nature.

It has with some been a matter of doubt, whether such an augmented secretion of lymph can take place from the surface of the body; but Dr Wrisberg is decidedly of opinion, that, in many, while there takes place a discharge by the surface, of a viscid glutinous fluid, either extended over the whole body, or confined to particular parts, as for example the feet, this can neither be considered as depending on the matter of perspiration, nor on the fluid furnished by the sebaceous follicles, but is to be held as being a real lymphatic sweat, as it is styled by our author. The irritation which by its stimulus produces this secretion,
is

is not, he observes, always very manifest. But he thinks it not improbable, that, in most instances, it is the effect of the saline particles of the sweat.

The evils resulting from diminished or obstructed absorption are, our author observes, the most obvious and most remarkable arising from the lymphatic system. Here, without pretending to enumerate all the modifications or causes of diminished absorption, he mentions as among the most striking, diminished absorption in the alimentary canal from constriction of the lacteals. This, he tells us, is often induced by the abuse of wine, or other spiritous liquors; by the too long continued employment of corroborant medicines; and by viscid or glutinous aliment. Diminished absorption also, he observes, frequently takes place at the lungs, and indeed at all the cavities of the body both large and small, being the most common cause of dropical accumulations.

Dr Wrisberg next treats of the morbid affections and injuries to which the system of absorbent vessels is most frequently subjected. These, he thinks, may all be referred to three

heads ; what, viz. depend on the condition of the fluids to be absorbed ; on the fabric and conformation of the absorbent vessels ; and on the muscular power concerned in propelling the fluids through them.

In treating of the diseases which may be chiefly alleviated or removed by the aid of the absorbent vessels, he thinks that these, although the field be very extensive, may be chiefly referred to seven classes : 1. Dropsies, whether general or partial. 2. Affections of the mamma in females. 3. Obstructed excretions. 4. Swellings from the puncture of venomous animals. 5. Affections of the external senses, particularly of vision and hearing. 6. Affections of the solids, under the form of excoriation, erosion, and the like. 7. Diseases which, like small-pox, may be mitigated by inoculation.

This essay is concluded by some observations on the most efficacious remedies for the removal of morbid affections of the lymphatic system. These, he thinks, may be referred to five classes. Under the *first*, he comprehends those articles by which impediments are removed adverse to the office of absorption ; as, venesection

venesection and scarification, laxatives, emetics, and diaphoretics. Under the *second*, are comprehended all those which forward the progressive motion of the absorbed fluid; which, in general, is effected by muscular motion; as, riding, leaping, friction, and the like. His *third* class comprehends those remedies by which spasmodic strictures of the vessels are relaxed. To the *fourth*, he refers a variety of articles of the irritant and stimulant kind; and, under a *fifth*, he includes all the remedies not properly referable to any of the former, as the proper regulation of the temperature, of food, and of drink. And here he observes, that both heat and cold have great influence. Heat, he thinks there can be no doubt, increases very much even the first action of absorption; while cold, although not favourable to absorption itself, has yet, he thinks, very great influence in promoting the motion of fluids in the lymphatics, after they have once been taken up.

XIII.

Jo. Andræ Murray *Commentatio de Arboribus Gummi-Guttæ fundantibus, nominatim ea quæ verum erogat; subjunctis aliquot aliis Observationibus Botanicis. Vide Commentationes Societatis Regiæ Scientiarum Gottingensis. Vol. IX. 4to, Gottingæ.*

THE learned author of the dissertation now before us, sets out with observing, that by the successful enquiries of the moderns, the number of articles used in medicine, with the origin of which we are unacquainted, is daily reduced; and in proof of this, he mentions the accurate descriptions with which we have been lately furnished, of the vegetables producing the Cortex Winteranus, Salep, Catechu, Benzoe, and several others. But he remarks, that doubts have hitherto subsisted among botanists, from what vegetable that genuine gummi-resinous juice, known in the shops.

shops of the apothecaries by the names of *Gummi-guttæ*, *Gambogia*, and *Gutta-gambæ*, is obtained. Different trees are described as yielding it, by Bontius, Rumphius, Schreber, and others. But there are three, in particular, which Dr Murray thinks deserve to be mentioned, on account of the yellow juice which they yield when wounded; and which, though differing in their origin, after being dried, are so far similar, that all of them may, from mistake, be considered as the same. These are, the *Guttæfera vera* of Koning, which Dr Murray styles the *Stalagmitis Cambogioides*; the *Cambogia Gutta* of Linnæus, and the *Hypericum bacciferum* of Linnæus.

Dr Murray considers it as a matter of greater importance to determine from which of these trees the genuine *Gummi-Gutta* is obtained; as of late this article, formerly used almost only by painters, has been introduced into the practice of physic, in different affections, with great success. It was the prevailing opinion among botanists, that the *Gum-Gutta* was the product of the *Cambogia-Gutta*; and accordingly, this opinion is adopted by the Edinburgh College, as well indeed as by several

other Colleges, even in the latest editions of their pharmacopœias. But this opinion has of late been overthrown by Dr Koning, who practised for many years as a physician at Tranquebar. This able naturalist, with indefatigable industry, made several journeys into Ceylon, Siam, and other countries, where, from examining the trees themselves, he had an opportunity of correcting the error which before prevailed.

By the favour of that justly celebrated botanist Sir Joseph Banks, Baronet, the papers of Koning on this subject were put into the hands of Dr Murray : and from these he here furnishes us with an exact description of the tree which yields the genuine Gummi-Gutta, and which is both of a different genus and class from the Cambogia. By these papers, Dr Murray has also been enabled to give a more accurate description of the Cambogia of Linnaeus, which had formerly been described only from small branches, inaccurate narrations, and bad plates.

To the first of these trees, Dr Murray gives the name of *Stalagmitis Cambogioides*. It is known, he observes, among the natives, by the names of
Ghokkatu,

Ghokkatu, *Gokathu*, or *Ghotathu*; and in the manuscripts of Koning is styled *Arbor gummi-guttafera vera*. After giving a very accurate and particular description of every part of it, he observes, that it falls under the class of polygamia, and order of monœcia; and he gives the following short generic character of it.

Stalagmatis. *Floris masc. Cal.* 4. s. 6. phyllus *Corol.* 4. s. 6. petala, stamina numerosa, receptaculo carnosâ quadrangulari inserta, subinde polydelpha. *Rudimentum Styli* subinde *Stigma* echinatum.

Floris hermaphrod. Cal. Cor. et Stamina ut in masculo *Stigma* 3. s. 4. lobatum. *Bacca* globosa, stylo et stigmate coronata.

This tree is chiefly to be considered as a native of the territory of Siam; for it is reported, that it has only been transplanted from thence to Ceylon. Even in the latter country, however, it is to be met with in abundance in uncultivated places; and there, for obtaining the juice, they wound with a sharp stone different parts of the bark of the trunk. From these wounds a milky juice, about the consistence of cream, exudes, which

is soon hardened by the heat of the sun, constituting the genuine Gummi-Gutta.

After his observations on the Stalagmâtis, Dr Murray presents us, chiefly from the papers of Koning, with a more minute and accurate description of the Cambogia Gutta than is to be found in the writings of Linnæus; for which, however, we must refer those who wish to examine it to the dissertation itself. This tree, which grows in abundance on the coast of Malabar, and is there known by the name of *Korka*, or *Korka-Ghas*, is likewise to be met with in the south-west parts of Ceylon, and is there also cultivated in gardens, chiefly on account of its fruit. This tree also yields a gummi-resinous juice, but differing considerably from the genuine Gummi-Gutta, particularly as being much less soluble in water, and of a more resinous nature. In its fluid state, it yields an acrid taste; but when dried, it is entirely destitute of it. On the other hand, the genuine Gum-Gutta appears at first insipid, but afterwards excites a sense of acrimony in the mouth, with dryness of the fauces. This gum, Dr Murray thinks, should be distinguished by the
name

name of *Gummi-Korkæ*; and he observes, that it does not appear that it is ever employed internally by the natives of Ceylon for medical purposes.

Another tree which yields a gummi-resinous matter, nearly resembling these two, is the *Hypericum Bacciferum* of Linnaeus. Of this tree also, which again is a native of South America, and known in the Portuguese settlements by the name of *Pao de Lacra*, Dr Murray gives a particular description. It yields a gum, employed both as a paint and as a medicine; and from its near resemblance to the genuine Gum-Gutta, it may, Dr Murray thinks, be styled the *Gummi-Gutta Americanum*.

XIV.

A Treatise of the Materia Medica. By William Cullen, M. D. Professor of the Practice of Physic in the University of Edinburgh; First Physician to his Majesty for Scotland; Fellow of the Royal College of Physicians of Edinburgh, of the Royal Societies of London and Edinburgh, of the Royal Society of Medicine of Paris, of the Royal College of Physicians of Madrid, of the American Philosophical Society of Philadelphia, of the Medical Society of Dublin, of the Royal Medical, and of the Royal Physico-medical Societies of Edinburgh. In two volumes. 4to, Edinburgh.

IF the progress of medicine has been much retarded by fanciful and groundless theory, it has been no less so by what have been called false facts; and in no branch of the medical art have these abounded more than
in

in the *Materia Medica*. Nor is this wonderful, when we consider how difficult it is for us to trace the connection between cause and effect, even when we think we proceed upon the sure ground of experience.

To those, therefore, whose observations enable us to distinguish between truth and error, medical practitioners must ever consider themselves as much indebted. The work now before us, has, in our opinion, no inconsiderable claim to this merit; for the observations with which we are here presented, are the result of uncommon genius and discernment, exerted with unwearied assiduity for a period of fifty years. The nature of our work, however, will not admit of such an analysis as will convey to our readers any proper idea of the particular observations it contains; and we shall only endeavour to give them a general idea of the manner in which the subject is here treated.

Dr Cullen begins his work with the History of the *Materia Medica*, containing an account of the principal writers upon that subject. In this history, he delivers a short, but judicious opinion of the chief writers on this subject,
from

from the days of Hippocrates to the present time, candidly pointing out the merits and demerits of each. The works which he represents as, upon the whole, best deserving attention, are, The Experimental History of the Materia Medica, by Dr Lewis, as published by Dr Aikin; the Materia Medica e regno vegetabili of Professor Bergius; and the Apparatus Medicaminum of Professor Murray. These books he the rather recommends to the attention of the industrious student, as they point out the grounds of many of those reflections which he offers in the work now before us.

Before entering on the consideration of particular medicines, Dr Cullen thinks it proper to treat of what relates to the operation of all of them. Without entering particularly into his observations on this subject, we may only remark, that he considers the peculiar effect of substances in general, and of those substances in particular which we call Medicines, when applied to the human body, to depend on their action upon its sensible and irritable parts.

The

The various modifications to which the actions of remedies are subjected, according to the different circumstances in which the body may happen to be, and that either throughout the whole of life in different persons, or upon particular occasions in the same person, lead him to the consideration of the different temperaments, as they have been called. Here he endeavours to consider those circumstances of the internal state of the body, which may give occasion to a difference in the state of the functions, and even in the external appearances which distinguish different men. These circumstances, he thinks, may be referred to five general heads, viz. as they occur, *1st*, In the state of the simple solids. *2dly*, In the state of the fluids: *3dly*, In the proportion of the solids and fluids in the body. *4thly*, In the distribution of the fluids. And, *5thly*, In the state of the nervous power. On each of these he offers many ingenious and important observations; and after this he proceeds to treat of particular temperaments. Two temperaments which have been admitted in all ages, and which he thinks can be most clearly

ly

ly distinguished, are, the Sanguine, and the Melancholic.

In the first of these, the hair is soft, and never much curled; is of a pale colour, or from thence passing through different shades to a red; the skin is smooth and white, the complexion ruddy, the eyes commonly blue, the habit of the body soft and plump. After the period of manhood, those of this habit are disposed to obesity, and at all times readily sweat upon exercise. The strength of the whole body is moderate, and the mind sensible, irritable, chearful, and unsteady. In this temperament Dr Cullen supposes the simple solids to be lax, the mass of blood to be of a moderate consistence; the red globules and serum to be in large proportion, and the serosity to be of moderate acrimony. He presumes the heart to be active, and rather strong with respect to the system of blood-vessels; the quantity of blood in the arteries large with respect to that in the veins; the quantity of fluids in the whole body large in proportion to the quantity of solids; the state of the nervous system to be sensible and irritable, but readily changeable.

In

In the Melancholic, the hair is hard, black, and curled ; the skin is coarser, and of a dun colour, with a corresponding complexion ; the eyes are constantly black, the habit of body rather hard and meagre ; the strength considerable ; the mind slow, disposed to gravity, caution, and timidity ; with little sensibility or irritability, but tenacious of all emotions once excited, and therefore of great steadiness. In this temperament he supposes the simple solids to be firm and dense ; the mass of blood to be of a thicker consistence ; the gluten abundant ; the red globules and serum in moderate quantity ; the serosity more acrid ; the heart rather torpid, but strong ; the quantity of blood in the veins large with respect to that in the arteries ; and the quantity of fluids in the whole system moderate in proportion to the solids ; the state of the nervous system to be less sensible and irritable, but strong and steady, and disposed to admit the reflex sensations of sadness and fear.

These two temperaments, however, are seldom perfectly formed ; and hence arises the variety to be met with among the human species. But while the operation of medicines

is

is concerned with the general state or temperament of the constitution, so it is also much concerned with peculiar conditions which take place in particular persons, or in particular parts of the body. This leads him to some observations on idiosyncrasies. The greater part of these he supposes to consist in a preternatural degree of the sensibility or irritability of certain parts of the system, or in a peculiar sensibility or irritability of the whole body, or in particular parts of it, with regard to certain applications, and to these only.

Dr Cullen next makes some observations on the different means by which we learn the operation of medicines. And here he delivers his sentiments respecting the information to be derived from chemical examination, from botanical affinity, from sensible qualities, and from former experience. He acknowledges in several respects the utility of all these modes of investigating the virtues of medicines, and the advantages that may be derived from due attention to them; but at the same time he points out the fallacies to which all of them, even experience, is liable; and he mentions no less than eight different cases

cases of what he calls false experience, all of which have led to numerous errors in the *Materia Medica*.

To these introductory observations, Dr Cullen subjoins an explanation of the general terms employed by writers on the *Materia Medica*. These terms are here arranged in alphabetical order; and after giving an explanation of each, he offers remarks on the idea on which they are founded, pointing out how far, in his opinion, it has or has not a foundation in nature.

We are next presented with the general arrangement which Dr Cullen follows in treating of the *Materia Medica*, under the following tabular form :

MATERIÆ MEDICÆ TABULA GENERALIS,
in qua Medicamenta ad Capita quædam secundum indicationes morborum curatorias quibus respondent, referuntur.

Materia Medica constat ex

NUTRIMENTIS, quæ sunt,

Cibi,

Potus,

et quæ cum his assumuntur Condimenta.

MEDICAMENTIS, quæ agunt in
Solida.

Simplicia.

Astringentia,

Tonica,

Emollientia,

Erodentia.

Viva.

Stimulantia,

Sedantia.

Narcotica,

Refrigerantia.

Antispasmodica.

Fluida.

Immutantia.

Fluiditatem.

Attenuantia,

Inspissantia.

Misturam.

Acrimoniam corrigentia.

In genere

Demulcentia.

In specie

Antacida,

Antalkalina,

Antiseptica.

Evacuantia.

Errhina,

Sialogoga,

Expectorantia,

Emetica,

Cathartica,

Diuretica,

Diaphoretica,

Menagoga.

After this general view of the arrangement of his subject, he subjoins a catalogue of the different simples which fall under each of these divisions. The particular articles which fall under his different classes of medicines, astringents, tonics, emollients, and the like, agree, it may naturally be supposed, very much with the enumeration of other authors who have adopted the same classes. But as his catalogue of nutriments is, in our opinion, in many particulars more methodical and complete than any we have ever met with, we shall here present it to our readers at full length.

NUTRIMENTA.

CIBI.

I. EX VEGETABILIBUS. *Fructus.*

A. FRUCTUS.

a. *Acido-dulces recentes.**Drupaceæ.*

CERASUS,
Prunus Cerasus,
 Cherry.

PRUNUS,
Prunus domestica,
 Plum.

MALUM ARMENIACUM,
Prunus Armeniaca,
 Apricot.

MALUM PERSICUM,
Amygdalus Persica,
 Peach and Nectarine.

Pomaceæ.

MALUM HORTENSE,
Pyrus mala,
 Apple.

PYRUS HORTENSIS,
Pyrus communis,
 Pear.

AURANTIUM,
Citrus Aurantium,
 Seville Orange,
 China Orange.

Pomaceæ.

LIMONIUM,
Citrus Medica,
 Lemon.

Sênticosæ.

FRAGA,
Fragaria vesca,
 Strawberry.

RUBUS IDÆUS,
Rubus Idæus,
 Raspberry.

Ribesia.

RIBES RUBRUM,
Ribes rubrum,
 Red currant.

RIBES NIGRUM,
Ribes nigrum,
 Black currant.

GROSSULARIA,
Ribes grossularia,
 Gooseberry.

UVÆ VITIS,
Vitis vinifera,
 Grapes.

b. *Acido-dulces siccate.*

UVÆ PASSÆ MAJORES,
Vitis vinifera,
 Raisins.

UVÆ

Fructus.

Acido-dulces siccata.

UVÆ PASSÆ MINORES,

Vitis vinifera apyrena,

Dried currants.

CARICÆ,

Ficus carica,

Fig.

DACTYLI,

Phoenix dactylifera,

Date.

c. *Cucurbitaceæ.*

CUCUMIS,

Cucumis sativus,

Cucumber.

MELO,

Cucumis melo,

Melon.

B. HERBÆ OLERACEÆ.

ATRIPLEX,

Atriplex hortensis,

Orache.

BETA,

Beta vulgaris,

Beet.

SPINACIA,

Spinacia oleracea,

Spinage.

VALERIANELLA,

Valeriana locusta,

Lamb lettuce.

Herbæ Oleraceæ.

Siliquosæ.

BRASSICA,

Brassica oleracea,

Colewort and cabbage.

NASTURTIIUM HORTENSE,

Lepidium sativum,

Garden cress.

NASTURTIIUM AQUATICUM,

Sisymbrium nasturtium,

Water-cress.

Semiflosculosæ.

CICHORIUM,

Cichorium Intybus,

Succory.

ENDEVIA,

Cichorium Endivia,

Endive.

DENS LEONIS,

Leontodon Taraxacum,

Dandelion.

LACTUCA,

Lactuca sativa,

Lettuce.

Umbellatæ.

CELERI,

Apium graveolens,

Celery.

PETROSELINUM,

Apium petroselinum,

Parsley.

Capitatæ.

*Herba Oleraceæ.**Capitatae.*

CINARA,
Cinara scolymus,
 Artichoke.

ASPARAGUS,
Asparagus officinalis,
 Asparagus.

C. R A D I C E S .

Siliquosæ.

RAPHANUS,
Raphanus sativus,
 Radish.

RAPUM,
Brassica rapa,
 Turnip.

Umbellatæ.

DAUCUS,
Daucus carota,
 Carrot.

PASTINACA,
Pastinaca sativa,
 Parsnip.

SISARUM,
Sium sisarum,
 Skirret.

Semiflosculosæ.

SCORZONERA,
Scorzonera Hispanica,
 Viper's grass.

TRAGOPOGON,
Tragopogon porrifolium,
 Salsafy or Goat's beard.

*Radices.**Alliaceæ.*

ALLIUM,
Allium sativum,
 Garlic.

PORRUM,
Allium porrum,
 Leek.

CEPA,
Allium Ceps,
 Onion.

CEPA ASCALONICA,
Allium ascalonicum,
 Shallot.

SCORODOPRASUM,
Allium scorodoprasum,
 Roccambole.

Farinosæ.

BATTATAS,
Solanum tuberosum,
 Potatoes.

SALEP,
Orchis morio,
 Salep.

D. S E M I N A .

Cerealîa.

HORDEUM,
Hordeum vulgare,
 Barley.

AVENA,
Avena sativa,
 Oat.

SECALE,

Semina.

Cerealìa.

SECALE,

Secale cereale,

Rye.

MILIUM,

Panicum miliaceum,

Millet.

TRITICUM,

Triticum hybernum,

Wheat.

ORYZA,

Oryza sativa,

Rice.

MAIZ,

Zea Mays,

Maize.

Cerealibus affinia.

SAGO,

Cycas circinalis,

Sago.

FAGOPYRUM,

Polygonum Fagopyrum,

Buck wheat.

CASTANEA,

Fagus Castanea,

Chefnut.

Legumina.

PISUM,

Pisum sativum,

Pea.

Semina.

Legumina.

FABA,

Vicia Faba,

Bean.

PHASEOLUS,

Phaseolus vulgaris,

Kidney bean.

Nuces oleosæ.

AMYGDALUS,

Amygdalus communis,

Variat dulcis,

amara,

Sweet almonds,

Bitter almonds.

AVELLANA,

Corylus avellana,

Filbert.

CACAO,

Theobroma cacao,

Chocolate.

JUGLANS,

Juglans regia,

Walnut.

PISTACHIO,

Pistachia vera,

Pistachio nut.

Sepiaria.

OLIVÆ,

Olea Europea,

Olives.

E. FUNGI.

E. FUNGI.

AGARICUS CAMPESTRIS,
Common esculent mushroom.

PHALLUS ESCULENTUS,
Morell.

LYCOPERDON TUBER,
Truffle.

II. EX ANIMALIBUS.

A. QUADRUPEDIA.

a. Lac :

Fœminæ,
Asinæ,
Equæ,
Vaccæ,
Capræ,
Ovis.

b. Carnes.

Pecora.

Bos,
Bos Taurus,
The ox.

Ovis,
Ovis Aries,
The sheep.

CAPER,
Capra Hircus,
The goat.

CERVUS,
Cervus Elephas,
The hart, stag, or red-deer.

Carnes.

Pecora.

CERVUS,
Cervus Dama,
Buck or fallow deer.

CERVUS,
Cervus Capreolus,
Roebuck.

Glires.

LEPUS,
Lepus Timidus,
The hare.

CUNICULUS,
Lepus Cuniculus,
The rabbit.

Bellua.

SUS,
Sus Scrofa,
The hog.

B. AVES.

Gallinae.

GALLUS,
Phasianus Gallus,
Dunghill fowl.

PHASIANUS,
Phasianus Colchicus,
Pheasant.

GALLO PAVO,
Meleagris Gallo pavo,
Turkey.

PAVO,
Pavo cristatus,
Peacock.

MELEAGRIS,

Aves.

Galline.

MELEAGRIS,
Numida Meleagris,
 Guiney hen.

PERDIX,
Tetrao Perdix,
 Partridge.

COTURNIX,
Tetrao coturnix,
 Quail.

LAGOPUS,
Tetrao lagopus,
 Ptarmigan.

TETRAO RUFESCENS,
Bonasa Scotica,
 Muirfowl or grouse.

TETRIX,
Tetrao Tetrix,
 Black cock.

UROGALLUS,
Tetrao urogallus,
 Cock of the mountain.

Anseres.

ANAS DOMESTICA,
Anas Boschas,
 Common duck.

QUERQUEDULA,
Anas Crecca,
 Teal.

Aves.

Anseres.

ANSER DOMESTICUS & FERUS,
Anas anser,
 Tame and wild Goose.

ANSER BASSANUS,
Peli anus bassanus,
 Solon goose.

ALCA,
Alca Torda,
 Razor-bill or marrot.

LARUS,
Larus iridactylus,
 Kittiwake.

Gralla.

SCOLOPAX,
Scolopax rusticola,
 Woodcock.

GALLINAGO MINOR,
Scolopax Gallinago,
 Snipe.

ARQUATA,
Scolopax arquata,
 Curlew.

TRINGA,
Tringa Squatarola,
 Grey plover.

CHARADRIUS,
Charadrius pluvialis,
 Green plover.

RALLUS,

Aves.

Gralle.

RALLUS,
Rallus Crex,
Land rail.

Passeres.

COLUMBA,
Columba ænas,
Pigeon.

ALAUDA,
Alauda arvensis,
Lark.

VOLUCRUM OVA.

C. AMPHIBIA.

Amphibia reptilia.

TESTUDO,
Testudo mydas,
Tortoise.

RANA,
Rana esculenta,
Frog.

Amphibia Serpentia.

VIPERA,
Coluber berus,
Viper or adder.

Amphibia Nantia.

BATIS,
Raia batis,
Skate.

CLAVATA,
Raia clavata,
Thornback.

D. PISCES.

ANGUILLA,
Muræna anguilla,
Eel.

ANARCHICAS,
Anarchicus lupus,
Wolf-fish or cat-fish.

GADUS,
Gadus Morhua,
Cod.

GADUS ÆGLEFINUS,
Haddock.

GADUS MERLANGUS,
Whiting.

FABER,
Zeus Faber,
The doree.

PLEURONECTES,
Pleuronectes rhombus,
Turbot.

PLEURONECTES SOLEA,
The Sole.

PLEURONECTES FLESUS,
Grey Flounder.

PERCÆ,
Perca Fluviatilis,
Perch.

SCOMBER,
Scomber Scomber,
Mackrel.

SALMO.

Pisces.

SALMO,
Salmo salar,
Salmon.

ESOX LUCIUS,
The pike.

CULPEA HARENGUS,
Herring.

CULPEA ENCRASICOLUS,
Anchovy.

CYPRINUS CARPIO,
Carp.

CYPRINUS TRINCA,
Tench.

E. INSECTA.

CANCER,
Cancer pagurus,
Common crab.

CANCER GAMMARUS,
The lobster.

CANCER ASTACUS,
The Crayfish.

*Pisces.**Insecta.*

CANCER SQUILLA,
The prawn.

F. VERMES.

PECTUNCULUS VULGARIS,
Cardium edule,
Cockle.

OSTREA,
Ostrea edulis,
Common oyster.

MYTILUS,
Mytilis edulis,
Common muscle.

POTUS.

Aqua et aquosa.
Potus Fermentati.
Cerevisia.
Vinum.

CONDIMENTA ET CONDITA.

Aromata et acrida.
Saccharo, sale, vel aceto condita.

In the above list of the Nutrimenta, the articles are arranged according to the natural affinities which they have with each other; and the reader is presented with the Pharmaceutical, the Linnæan, and the English name of each article. The pharmaceutical or officinal name is printed in capital

pital letters, the Linnæan in Italics, and the English name in the Roman character, excepting in those cases where the Linnæan and officinal names are the same, and then capitals only are in general employed, without any repetition of the name.

After the list of the Nutrimenta, Dr Cullen has next given that of Medicamenta ; which, however, as we have already said, does not differ materially from the lists of other writers who have adopted the same classes. But at the same time, the intelligent reader will readily perceive, that there is much merit in the inferior distributions into which classes are divided : but for this list we must refer him to the work itself.

After giving a catalogue of the Materia Medica, Dr Cullen next proceeds to treat of Aliments ; and he sets out with offering some observations on aliments in general. Here he observes, that the aliments of the human species are taken entirely either from other animals, or from vegetables. But as all animal substances may be traced to a vegetable origin, his observations are almost entirely with regard to these last. From various considerations, he endeavours to show, that the chief vegetable
matters

matters affording aliment, are acid, sugar, and oil. He indeed admits, that the experiments of Beccaria and others, have discovered a substance in certain vegetables, which probably makes a part of the nourishment which they afford; and he allows, that this newly discovered matter approaches more nearly to the nature of animal substance, than any other part of vegetable matter with which we are acquainted. Still, however, he thinks that this discovery cannot invalidate his opinion, that the chief part of the aliment afforded by vegetables, depends upon acid, sugar, and oil, to be compounded by the powers of the animal œconomy. That acid, sugar, and oil, are matters which really enter into the composition of the animal fluids and solids, will not be denied; but at the same time, in our opinion, Dr Cullen has attributed much less than its due share to the *gluten vegeto-animale*, as it has been very properly styled; an article which, it is now found, may be extracted in abundance, not only from wheat, but also from many other vegetables, especially from potatoes.

After these general observations, Dr Cullen next proceeds to treat of particular aliments.

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In speaking of these, he follows the same order as in the list we have already given. But to take even the slightest notice of his remarks on each, would very far exceed those limits which we must necessarily fix to ourselves in this work. We must therefore be contented with giving an account of what he has said of a few of them only.

The summer-fruits are all of them, he observes, useful in quenching thirst, which they do, partly by their cooling quality, and partly by stimulating, and thus drawing forth a liquid from the mucous excretories of the mouth and fauces. They exert also a similar effect upon the stomach. Thus they excite appetite, while, at the same time, they diminish the action of the sanguiferous system. This, joined to their antiseptic powers, renders them of the greatest utility in every kind of febrile disorder.

The oleraceæ, he observes, contain some proportion of sugar, but so little, that they are justly supposed to be among the weakest nutrients. They are commonly said to be laxative; but Dr Cullen thinks they are not more so than any other vegetables capable of fermenting in the stomach, and taken into it in
large

large quantity. After some remarks on the different species of brassica which have been most frequently in use as olera, he remarks, that he has lately reared in his own garden the *Brassica gongylodes*, which, as far as he can learn, has not been before known or produced in Britain, and which, he is of opinion, may, under proper management, afford a delicacy for the table.

The roots of plants Dr Cullen considers as commonly containing more nutritious matter than their leaves; and he agrees with Mr Parmentier, that a great number of roots, never before thought of as esculent, contain a quantity of farinaceous matter, which may, upon occasion, afford an aliment. He however takes notice only of those commonly employed as food in this country, in the state in which nature presents them to us, and hardly requiring any other preparation than the ordinary one of the kitchen. Of the different species of turnip, he considers the yellow turnip, which is of a more sweet and mucilaginous taste, as being more nutritious than the white. As the carrot yields a great deal
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of sweet and melliginous juice, he thinks this a strong mark of its nutritious quality.

The seeds of plants are, he thinks, chiefly nutritious, from containing a farinaceous matter, and as such they make the most considerable part of the aliment of men over almost the whole of the earth. He considers wheat as having this advantage over all the other of the Cerealia, that it can be formed into a more perfect bread than any of them with which we are acquainted; but at the same time he thinks, that a great deal too much has been said of the noxious effects of unfermented farinacea. The gelatinous state of sago, points it out as a matter possessed of considerable nutrient powers; and being readily soluble, it is properly given as an aliment to weakly persons. From the gelatinous quality of salep, it may also be presumed to be nutrient; but he is of opinion, that its quality in this respect has been greatly overrated. Potatoes, he observes, afford a large proportion of amyllum, precisely of the same nature with that of wheat, or any of the other cerealia: their nutritious quality is now, he observes, ascertained by the experience

perience of all Europe; but as they contain a considerable proportion of water, they cannot, he thinks, be supposed to give, in proportion to their bulk, so much nourishment as the *cerealia* do.

The seeds of the *legumina*, when triturated with water, give a more milky solution than the *cerealia*; and in their germination they show a considerable quantity of saccharine matter. From containing an equal quantity of sugar, and a superior proportion of oil, Dr Cullen looks upon them as more nourishing than the *cerealia*; and this, he thinks, is confirmed by daily experience, not only in brutes, but also in the human species. Labourers, he observes, fed for some time on them, and afterwards fed on the *cerealia*, soon find a decay of strength. It is owing, he thinks, to the leguminous seeds being of a more oily quality, that they are not of so easy solution as the *cerealia*, and that therefore they are fitted only to the more robust people. Of the *legumina*, pease, though less nutrient than the bean, are generally more tender, and therefore are most frequently on our tables in their full grown state.

The nuces oleosæ are, Dr Cullen observes, farinaceous feeds which have a large proportion of oil in their composition; and this can be readily obtained in its separate state, either by expression, or by heat. As this oil resists fermentation, these are difficult of digestion, lie long on the stomach, and often feel uneasy there. Of the oily farinacea, he considers the cacao, or chocolate, as being equally nutritious with any other, and less offensive to the stomach; and he adds, that it is always more easily digested, as its oily and farinaceous parts are, by its preparation, more intimately united together.

Aliments taken from the animal kingdom are somewhat different, as they are taken from one or other of the six classes of mammalia, aves, pisces, amphibia, insecta, and vermes. Each of these, therefore, he considers separately. And the first article of which he treats, is milk. Into this subject he enters at great length, confining himself, however, to such as are used in aliment in this country; the milk, viz. of women, and of the domestic animals, asses, mares, cows, goats, and sheep.

Here

Here he particularly considers the nature and qualities of the oily part or cream, the coagulable part or curd, and the watery part or whey. After treating of the general qualities of milk, and of the different states of it which may take place in the several species of animals, or even in the same individual at different times, he treats of the use of milk as an alimentary matter. There can, he thinks, be no doubt, that milk is particularly intended for the nourishment of the new-born offspring; and for this he thinks it is especially suited, as being an intermediate aliment, partaking both of the vegetable and animal nature. But while milk is thus fitted for young animals, it appears clearly, Dr Cullen observes, that in a certain proportion it is an aliment well suited to every period of life, and might be constantly employed, except in certain persons whose stomachs do not seem to digest it properly.

After his observations on milk as an aliment, he next treats of it as a medicine. As milk is more readily than any other aliment formed into chyle, wherever the digestive organs are

weak, it may, more certainly than any other matter, supply nourishment to the body. Upon this account it is a restorative medicine, in cases of emaciation and debility. He considers it also as well fitted to correct and expel every fault that may take place in the fluids. On these grounds, he observes, it may operate as a remedy in various diseases; and in illustration of this, he makes some remarks on its use in cases of phthisis pulmonalis, of gout, and of fever. He thinks, however, that entire milk is ill adapted to fever; it is, he affirms, more agreeable, and answers better every purpose that can be proposed, in its more liquid and acid states.

Dr Cullen next treats of animal food strictly so called; that is, food consisting of the whole, or of a part of the substance of animals. In his opinion, that quality of animal substances, fitting them to be aliments, which first deserves to be mentioned, is the degree of solubility in the human stomach; and the condition which especially gives more or less solubility, is the different firmness of texture. He points out, at considerable length, a variety of particulars by which this will be influenced. Aliments

will,

will, he observes, be more or less quickly dissolved by the gastric juice, according to the degree of solubility in each, as determined by the circumstances he mentions: but whether there be any limits set to the powers of the gastric juice, with respect to its more or less complete solution of all the parts of the substance which it anywise dissolves, he does not pretend positively to determine. The gastric juice of the human stomach does not dissolve the bones or cartilages of animals. Perhaps it dissolves the more firm and membranous parts less completely than it does the fleshy; and it seems to be the latter only which it dissolves very entirely. He thinks it a matter of some doubt whether it makes any decomposition even of these, as decoction in water does, and thus leaves some portion of their earthy parts undissolved. At the same time he considers this decomposition as improbable; and concludes, therefore, that the quantity of nourishment in any meat which the gastric juice entirely dissolves, is in proportion to the quantity of animal matter which it contains.

In speaking of the general effects of aliments taken from quadrupeds upon the human constitution, he observes, that in proportion to the quantity taken in, they give more nourishment than any vegetable aliments. He considers animal food, therefore, as always ready to produce a plethoric state. He thinks, that, in growing bodies, it will always favour, and probably hasten growth; and in adults, have a tendency to produce a plethora ad volumen. As containing a greater proportion of oily matter, they occasion, he thinks, a greater secretion of oil into the adipose membrane, and thus produce obesity, which, from straitening the sanguiferous vessels, gives rise to a plethora ad spatium. From its tendency to fill the vessels, it must support a constant tension of these; and thus it will both give a greater degree of strength to the body, and increase the irritability of the system.

When a plethoric state is induced by animal food, as the balance between the several parts of the system may not always be exact, a peculiar increase of tension may take place in the vessels of the brain, of the lungs, of the liver, in the arterial, or in the venous system.

Thus

Thus it may give rise to epilepsy, asthma, hæmorrhagy, and a variety of other diseases. Hence he concludes, that though a proper measure of such aliment may render it long consistent with health ; yet, as the constant use of it gives a nicer balance to the several parts of the system, every unusually large indulgence in it must be extremely dangerous.

After his remarks on the qualities of aliment taken from quadrupeds in general, he next proceeds to consider how far these qualities are diversified in the different genera and species. This leads him to make particular remarks on the aliment derived from the flesh of the ox, sheep, goat, sow, deer, rabbit, &c. into the detail of which, however, we cannot propose to enter ; and may only in general observe, that he considers the differences as chiefly depending on the degree of density, of alkalescency, and of fat.

Dr Cullen next treats of the aliment taken from birds. Here he considers the general doctrine with respect to solubility, alkalescency, and nutritious quality, as equally applicable ; and therefore proceeds immediately to treat of the particular species. He points out the

differences which take place in these particulars, upon a comparison of different genera, referred to the orders of gallinæ, anseres, grallæ, and passerres, a great number of which are employed in aliment. He concludes this subject with some observations on eggs. This substance, he observes, is peculiarly fitted to the formation of the young animal, and may therefore naturally be supposed to contain a large proportion of nutritious matter : at the same time, he thinks it a less alkalescent food than almost any other animal substance, and during its digestion less stimulant. He is of opinion, that very little difference takes place in the qualities of the eggs of different birds. It is certain, that in many instances the peculiar odour and taste of the flesh of the bird is in no degree communicated to their eggs; and although, even in the eggs of our domestic fowl, some difference may be observed in the taste of the yolks, and density of the white, yet all eggs are still so much of a common nature, that he thinks their difference as aliment is hardly to be assigned.

After several observations on particular aliments taken from the classes of amphibia,
fishes,

fishes, insects, and worms, he concludes this subject with a few observations on the cookery of meats. This, he observes, with respect to vegetables, consists in the application of heat, the advantages of which seem to be, that most part of vegetable substances are thereby rendered more soluble in the human stomach; that the volatile parts of vegetable substances, which are seldom of a nutritious nature, and in many cases have a tendency to prove noxious, are separated; and that there takes place the extrication of a considerable quantity of air, which in the natural state of vegetables is always fixed in their substance. With respect to animal substances, it consists also in the application of heat, applied either in a humid form, as boiling and stewing; or in a dry form, as roasting, broiling, and baking. On each of these he makes some remarks, as rendering them tender, as extracting soluble parts, as removing moisture, and the like. After dressing, meats, as presented to the table, differ farther by their sauces, which have for their basis either oily matter, or strong gelatinous extracts from other meats.

All

All drinks which supply the necessary liquid to the body, do it, Dr Cullen observes, only by the quantity of elementary water which they contain. He considers drink, therefore, as of two kinds; either pure water, or water with certain additions made to it by art. Simple water, which is the only liquid taken in under the appetite of thirst by the whole of the brute creation, may from thence, he thinks, be the liquid in general presumed to be very well suited to the animal œconomy. To water, additions are sometimes made of the acid juices of fruits, farinaceous matters, aromatics, tea, coffee, and other vegetable substances. After these additions, the qualities of the drink must depend upon the quality of the matter that has been added. But besides these, liquors prepared by vinous fermentation are employed in every civilized nation. These are of two kinds, as being prepared either from the juice of fruits, which may be known by the general appellation of wines, or as extracted by water from certain seeds or roots, which may be named ales. He points out at considerable length, the differences which take place in these, from the differences of the fermentable subject, from
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the different conduct of the fermentation, and from the different period of fermentation at which the liquor is taken: but still he considers their qualities as chiefly arising from the alcohol they contain. This alcohol is sometimes employed in its separate state, sometimes with the addition of water, sugar, acid, or the like. These additions moderate its qualities, but never entirely remove them; and Dr Cullen considers alcohol, when separated from the fermented liquor in which it is produced, as being always a more stimulant, inflammatory, and narcotic matter, than when it was blended with the other parts of the fermented liquor.

The subject of Nutriments is concluded with a few observations on Condiments. These he considers as of two kinds, saline and acrid; and he offers some remarks on sea-salt, sugar, and vinegar, which are the chief condiments of the former kind. The acrid condiments he divides into two kinds, the aromatics, and the simple acrids; but, in both, he considers the effects as depending upon an essential oil, and as varying somewhat in proportion to its quality and quantity. The greater part, if not all
of

of these, when properly and prudently used, stimulate the stomach, and promote digestion.

From these observations, which we have extracted from this first part of Dr Cullen's work, it must appear to the intelligent reader, that, from a careful perusal of the work itself, he may derive much information respecting the nature of aliments, and the principles which should lead to the proper and necessary selection of them, as adapted to particular cases and constitutions; and this, we may add, is a subject which should deservedly engage the attention of every medical practitioner.

The second part of Dr Cullen's work is appropriated to the consideration of medicines, strictly so called; and here he treats of each particular article in his list, referred to the twenty-three different classes which we have already mentioned. On those articles which are but little employed, and unimportant, he reckons it sufficient to offer only a very few observations; but on the more important articles, such as camphor, mercury, opium, Peruvian bark, and the like, he bestows very particular attention. We shall not, however, attempt to give even a summary view of his observations

servations respecting any of these. But we shall only in general observe, that he has endeavoured to ascertain, from accurate observation in extensive practice, those properties which different articles of the *Materia Medica* do really possess; and, on the same basis, he has endeavoured to refute the ill-grounded opinions formerly adopted, with regard to many supposed virtues which they do not in reality possess. In delivering the general doctrines of classes which are prefixed to the consideration of the particular articles comprehended under each, he has given, in our opinion, a distinct and philosophical view of the principles upon which they operate. On this subject, it must indeed be allowed, that even the ablest practitioners still differ very much in their sentiments; and it cannot be denied, that a great deal of what is here said respecting the operation of medicines, is little better than conjecture, supported by some probability. Perhaps we may even add, that whatever is said upon this subject must necessarily remain in the same state of doubt, till a more thorough knowledge be obtained, both of physiology and pathology; subjects, with regard to which, in an infinite number of particulars, we are
still

still almost totally in the dark. Thus, in the reasonings of almost all modern physiologists, a great deal is said respecting the brain and nerves. Our ignorance with regard to these, however, is universally confessed by every candid man. Anatomy has long since demonstrated, that the brain is a very curious and delicate organ, consisting of a great number of different parts. We may infer, however, with no less certainty, that each particular has its particular use, than that they really do exist. Respecting the particular use of any of them, however, no physiologist has hitherto offered what can be considered even as a rational conjecture. Whatever, therefore, is said respecting the operation of medicines, where this part of the system is concerned, must be very uncertain. But it may at least be said, in favour of Dr Cullen's general doctrines, that he has supported his opinions with much ingenious speculation. And even the well-informed practitioner cannot peruse the remarks he has offered, as the result of his own observation and experience, without real benefit, both in the way of giving additional information, and of correcting error.

XV.

Justi Arnemann, M. D. in Academia Georgia Augusta Professoris Medicinæ Pub. Commentatio de Aphthis, quæ ab Illus. Reg. Soc. Med. Parisiensis, xxv. Aug. 1787, palmam alteram obtinuit. 8vo, Gottingæ.

THE dissertation now before us, as appears from the title, obtained for its author the honour of a prize-medal from the Royal Society of Medicine of Paris; and it will not be denied, that it contains many ingenious and important remarks, respecting a subject which deservedly claims the attention of every medical practitioner.

Dr Arnemann introduces this dissertation with some observations on the antiquity of Aphthæ, used as the name of a disease. After mentioning the different senses in which this term was employed by Hippocrates, Celsus, Galen, and other ancients, he observes, that

that Aphthæ were defined by Boerhaave to be small round superficial ulcers, occupying the inside of the mouth. Our author, however, objects to the appellation of ulcers, as they can by no means be said to yield pus. He thinks, therefore, that Aphthæ may be better defined to be, tumours of a white colour, or ash colour, superficial, round, and of a small diameter, so as scarcely to exceed the size of a millet or hemp-seed, filled with a peculiar ferous fluid, terminating in furfuraceous squamæ, and giving great pain. He observes, however, that he does not, by this definition, mean altogether to deny the existence of ulcerous aphthæ; but, while these are less common, they ought, he thinks with greater justice, to be numbered among the symptomatic aphthæ.

Respecting the seat of this disease, he observes, that aphthæ chiefly appear on the whole internal surface of the mouth, lips, gums, tongue, and palate, where these mucous cryptulæ are the most numerous, which pour forth a thin fluid for lubricating these parts. Aphthæ, he imagines, are formed, when this fluid, rendered more viscid than usual, cannot be propelled through the extremities of the ducts.

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In the mean time, by the force of the fluid behind, the extremity of the obstructed canal is raised above the surface; and thus the tumour called an aphtha is produced. He admits, however, that aphthæ do not occupy these parts alone, but that they are also sometimes seated in the œsophagus, the stomach, and the intestines. This, he thinks, is demonstrated, both from the great quantity of crusts sometimes discharged by stool, and likewise from dissections.

Dr Arnemann next describes those appearances which commonly precede and attend the eruption. This disease, he observes, usually occurs in infancy, but sometimes attacks adults, and even old people; insomuch, that neither age nor sex can be considered as exempted from it. It is more a disease of cold and wet, than of warm and dry situations. Upon the first attack, infants, before cheerful, either shun the breast, or cannot suck. They become watchful, and frequently awake from sleep with great terror. They cry much, both in the day and in the night. The inside of the mouth becomes inflamed, and the tongue appears as if it were pricked. The

breath is hot, and a sense of pricking heat is communicated from the mouth of the infant to the nipple of the nurse. The pulse is more quick than natural; and a slight degree of fever in general exists, which, however, in new-born infants, cannot easily be discovered.

During these symptoms, the cuticle becomes elevated in different places, and the aphthæ appear, principally on the tongue, the angles of the lips, and the fauces. As soon as they appear, they are filled with a thin fluid. This is, by degrees, converted into a thick, white, firm incrustation, which gradually covers the whole inside of the mouth, as far as it is visible. In point of colour, however, there is some variety. They are, in general, of a white or pearl colour; but, on the contrary, when they are so thick set as to give an uniform concrete appearance, they are, in general, of a yellow, brown, or even a blackish colour. Where the colour is white, the disease is the most favourable; on the contrary, the most dangerous appearance is a livid or dark purple hue. Their duration is very uncertain. Sometimes they fall off in one, two, or three days; but, in other cases, they remain firm for many days.

When

When the crusts do fall off, a new danger often arises. The dilated vessels now transmit a greater quantity of fluids, from whence a copious salivation arises, sometimes even of a bloody tinge. The sides of the intestines are excoriated, from whence arise diarrhœa and dysentery; and even the softest food or medicine which can be swallowed, produces distressing hiccough, and even dreadful convulsions.

After this account of the symptoms, Dr Ar-
nemann next proceeds to treat of the causes of aphthæ. He considers impurities of the primæ viæ as a principal cause of this affection; and these, he thinks, may either be attributed to the neglect of proper evacuation after birth; or to a variety of circumstances which afterwards favour the generation of a colluvies; such as bad milk, or improper food of other kinds.

From these considerations, he is led in the prophylaxis, to recommend, above all other things, the greatest attention to cleanliness. Their linens, he observes, ought frequently to be changed, lest an absorption from the surface should vitiate the mass of fluids. It is also, he thinks, of great service, that the mouths of

infants be frequently washed with cold water. The meconium should be evacuated in due time; a diet should be furnished to the infants, suited to their tender age; and they should be entrusted to a careful nurse. But if, notwithstanding these precautions, gripes, and other signs of approaching aphthæ take place, the infant should be copiously supplied with liquids, or, if it be still upon the breast, liquids should be given plentifully to the nurse. The inside of the mouth should be carefully examined, and frequently washed and wiped, if white spots appear upon it: But, if such a progress has taken place, the disease will rarely be altogether prevented, unless recourse be had to purgatives, or emetics, which, by their concussion, may remove all the viscid matters.

In the cure, Dr Arnemann considers emetics as deservedly claiming a preference over every other remedy, while the fomes of the disease is still in the stomach, and when anxiety, hiccough, foetid eructations and vomiting are frequent. What he esteems the best emetic, is Huxham's antimonial wine. From five to ten drops will be a sufficient dose with an infant a few weeks old; and it may be increased

ed in proportion to the age. If the first dose do not operate, he advises that a second be given, at the interval of an hour, and thus repeated, till the desired effect be produced.

Purgatives also, are often, he observes, found to be productive of great benefit. Sometimes, however, he allows, a fatal hypercatharsis is produced. Care therefore should be taken, that they be not given when the intestines are in an excoriated state. But in the beginning and end of the disease, when the aphthæ are in the state of falling off, they are, he thinks, of great service in discharging these, and thus preventing the evils which might arise from their retention. The purgatives which he prefers are, those of a gentle and lubricating nature, and which at the same time possess a strengthening power; such as, the tincture of rhubarb with magnesia. These also, to avoid the danger of hypercatharsis, it is proper to employ in small doses, repeated at due intervals.

Among other aids, injections, he observes, are not to be neglected. These glysters may be composed of decoctions of burdock or grass-roots, of water-gruel, barley-water, milk and water, or the like; but, if the belly be very

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bound,

bound, they may be sharpened by some purgative article.

Besides these, such medicines, our author observes, must be exhibited as forward the expulsion of the morbid matter. For this purpose, he recommends attenuant, demulcent, saponaceous and farinaceous drinks; such as, decoctions of the taraxacum, althea, fœniculum, acetosa, and the like.

The food of infants subjected to this disease, should, according to Dr Arnemann, be liquid, light, and mild; and, if the infant be upon the breast, the nurse should be supported on such food, avoiding all salted or high-seasoned aliment.

In some cases, particularly with very young infants, it is necessary that even medicines should be given to the nurse. And for this purpose, Dr Arnemann strongly recommends the medicine proposed by Dr Rosenstein, under the title of *Pulvis Nutricum*, which consists of equal parts of magnesia alba, orange-skins, fennel-seeds, and white sugar reduced to a fine powder; and of this as much is to be taken two or three times every day as can be lifted on the point of a knife. He advises also the
copious

copious drinking of ptisans of barley or oats, infusion of linseed, or the like; and he recommends likewise the powder of rhubarb with magnesia, the active powers of which, he affirms, are communicated from the nurse to the infant by the milk.

While these internal remedies are employed, external assistance also is not to be neglected; for, by these, a more speedy discharge of the aphthous crusts may be procured. Gargarisms and washes, however, intended to act upon the affected parts, are of but little use with infants, as they are immediately swallowed; but he strongly recommends a linctus, formed of honey, impregnated with the vitriolic acid, or with a solution of white vitriol; but after the aphthæ have fallen off, and the parts below are excoriated and tender, he advises, that the applications be entirely of the mildest and blandest kind; such as, solution of gum-arabic, mucilage of quince-seed, syrup of poppies, and the like.

When the pain from the part begins to be diminished, he advises, that recourse be had to gentle astringents, by which the dilated vessels may be braced. For this purpose, he

recommends melrose or mulberry rob, acidulated with spirit of vitriol. Some, he observes, have recommended the decoctum corticis ulmi. But what he considers as entitled to the highest encomiums, are those linctuses into which borax enters, composed with syrup of poppies, raspberries, mulberries, or the like. But when these liniments are used, the mouth of the infant should afterwards be wiped and cleaned either with tepid water, or with any of the ptisans which have been already mentioned.

These remedies, he observes, will in general be sufficient for the cure of ordinary mild aphthæ. But before he concludes this subject, he offers a few observations respecting the treatment of symptoms with which even these are sometimes attended. For obviating hiccough, he recommends that opiates should be exhibited either to the mother or nurse; and the syrup of poppies mixed with the ptisan given to the infant. He recommends, that the diarrhœa, when violent, be counteracted by mucilaginous injection. Sometimes, he observes, it will be necessary to have recourse to opiates; but these, he thinks, should be used in a very sparing

sparing and cautious manner. If salivation be immoderate, it may be checked by the astringent injections already mentioned. When other diseases supervene on aphthæ, these are to be treated in the manner best accommodated to the nature of the particular affection which may occur.

After these observations on aphthæ, occurring in their ordinary, and what may be called their mild state, Dr Arnemann next treats of the malignant aphthæ of hospitals, particularly of those hospitals fitted for the reception of infants. This species of aphthæ has, he observes, at different times particularly prevailed in the hospitals at Paris. This disease in general appears a few days after birth. The mouth of the infant becomes gradually pale; it cries and complains almost incessantly both day and night; the body wastes, and the skin becomes flaccid; it is distressed with thirst, gripes, vomiting, and acid eructations. A continual diarrhœa is present, the stools being sometimes watery, sometimes of a greenish colour, and giving out a strong fœtid or acid smell. In the mean time, fever is excited, the heat is increased, the pulse becomes frequent, and

and convulsions sometimes supervene. Small white tumours now become obvious on the lips, sometimes degenerating into real pustules. These by degrees affect the uvula, tongue, palate, tonsils, and the whole tract of the intestinal canal. Nay, even from the erosion of the fæces, pustules are discovered about the anus very much resembling aphthæ; and it is even not unfrequent for aphthæ to appear about the mammæ of the nurse. The malignant aphthæ are distinguished, by the symptoms preceding the eruption being numerous and severe; by their coming out very thick; by their being of a yellow, opaque, or brown colour; and when they fall off, new and thicker incrustations are immediately formed; and at length, general wasting of the habit, the Hippocratic face, and death, ensue.

It has been matter of dispute, whether the malignant aphthæ are to be considered as contagious or critical. Countenance is given to the former of these opinions, from their prevailing generally in those houses fitted for the reception of very young children; but this, our author thinks, may be sufficiently explained, from all the children in any one such house
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being subjected to the same treatment, whether good or bad. With still less reason can they, in his opinion, be styled critical, when it is considered, that from the timely use of evacuates, discharging the matter from the alimentary canal, they may be removed.

With respect to the cause of the malignant aphthæ, he observes, that if it be established by experience, that the general cause of aphthæ is placed in impurity in the primæ viæ, and that the symptoms which accompany the malignant, such as anxiety, foetid diarrhœa, and the like, are the same with what occur in fevers from an affection of the alimentary canal; there can, he thinks, be little doubt in referring aphthæ to the number of gastric diseases, and in concluding that these malignant aphthæ differ only from the common kind in degree; and this he ascribes to the treatment to which children must necessarily be subjected in those hospitals fitted for their reception.

In the prevention of the malignant aphthæ, Dr Arnemann advises, that, as soon as infants are received into the hospitals fitted for their reception, the impure colluvies be immediately evacuated. They should be furnished, if possible,

possible, with the milk of a woman newly delivered. If it be necessary to rear infants entirely upon the milk of other animals, he prefers the milk of asses, and, next to that, of mares. As far as other aliment is necessary, he prefers bread meat, to gruels immediately formed from farina ; and he directs, that the greatest attention should be bestowed in the choice of good bread. He condemns, in the strongest terms, the practice of some nurses, of introducing the aliment into their own mouths, with the view of heating it, before they give it to the infant. In addition to these particulars, the greatest attention is to be bestowed on cleanliness. Infants should be frequently washed, their mouths, in particular, several times in the day ; and great care should be bestowed, that both their bed and body linen should be clean and dry.

Free access should be given for the admission of air into the apartments in which they sleep ; and on this account Dr Arnemann highly recommends the use of ventilators. The windows should also, he thinks, be opened daily, and impure effluvia corrected by aromatic fumigations, or by burning gunpowder in the apartments,

partments, the use of which he represents as highly efficacious.

In the cure of the malignant aphthæ, when the disease has already taken place in any infant, he directs that it should be immediately separated from the others; placed in a dry and airy bed-chamber; that its linens should be immediately changed; and if there be any reason to suspect a fault in the nurse, she should give place immediately to another, or the infant be supported upon the milk of domestic animals, or on other food.

Regard must also be paid to the evacuation of the alimentary canal; and with this view he recommends, as a very efficacious practice, the giving magnesia and rhubarb to the nurse. He advises, that the syrup of succory with rhubarb be given to the infant itself; or if it be somewhat advanced, the tincture of rhubarb with magnesia, in such quantities as gently to move the belly. The nurse must be copiously supplied with mild, bland diluents, shunning all acrid and salt food. Besides this, glysters are never to be neglected, which he considers as preferable to all other remedies in the treatment of malignant aphthæ. These, he thinks,
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should in general be prepared of mucilaginous decoctions alone; but if the belly be very bound, he thinks they may be sharpened by some purgative, such as tincture of rhubarb.

That the crusts of the aphthæ may sooner fall off, he advises the application of some detergent liniment, particularly of those which contain the vitriolic acid, or borax. When the aphthæ have a livid or black appearance, threatening a putrescent state, he advises that recourse should be had to a decoction of bark, and to an infusion of rue, serpentaria, or sage, with borax or with alum; and he likewise directs, that besides being taken by the mouth, these should be employed under the form of injection. He thinks also, that benefit may be derived from the use of fixed air.

When particular bad symptoms come on, as singultus, salivation, or the like, these are to be allayed in the same manner as in other cases. Some have recommended the use of blisters and of cordials; but Dr Arnemann strongly condemns both the one and the other; and thinks, that the only cordials which are admissible, are those which at the same time remove the cause of the disease.

After

After these observations on the malignant aphthæ, Dr Arnemann adds a few remarks respecting what he calls venereal and scorbutic aphthæ. In the first of these cases, he observes, that it is often difficult to distinguish the cause of the disease. They are chiefly, he thinks, to be distinguished, by the spreading of the ulcers, the fetor, and the affection of the bones. When the cause is manifest, he directs fumigation with mercury, or washing with a solution of corrosive sublimate. When a scorbutic diathesis appears, as indicated by stomaccace, fetor of the mouth, a livid colour, and other marks, he recommends the conjunction of antiscorbutic medicines with evacuates.

Dr Arnemann concludes this treatise with some observations on the aphthæ of adults; the aphtha febrilis of Sauvages and Sagar; the febris apthosa of Selle. He tells us, that aphthæ in adults chiefly follow continued, putrid, or intermittent fevers, especially those autumnal fevers which begin with diarrhœa and dysentery; and he considers them as being particularly the consequence of warm regimen, or of the precipitate use of astringents, before
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the fomes of the disease has been properly discharged by cathartics. These begin in the same manner as the aphthæ of infants, excepting that the preceding symptoms are more violent and numerous; which, indeed, infants cannot express in words. They are affected with nausea, perpetual anxiety, great pain and weight about the præcordia, dulness of the senses, and stupor. The eruption seems to rise up the course of the œsophagus: at length, they fill not only the mouth, but also the aspera arteria and nostrils.

The prognosis is chiefly to be drawn from the nature of the disease which they follow, and the strength of the patient. But it is always to be considered as unfavourable, when, upon their appearance, there is a recurrence of fever, the pulse becomes small, and the appetite fails.

These he considers as likewise arising from crudities and impurities in the primæ viæ, and as therefore requiring, in the cure, emetics and cathartics. Regard, however, must be had to the tendency of the disease which they have succeeded; and where putrid fevers have preceded, cathartics must be cautiously exhibited, or
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at least antiseptics conjoined with them, such as Peruvian bark, or the like. But besides this, he advises that recourse be also had to the internal and external remedies which have already been mentioned, and which it is here needless to repeat. In these cases, after the aphthæ have fallen off, acrid aliments and medicines are to be cautiously avoided, lest a fatal inflammation of the stomach or intestines should be produced. Care must also be taken, that the vessels be not constricted by cold air, or by cold drink; for of this, he tells us, a dangerous angina is often the consequence.

XVI.

Hydrophobiæ insititiæ historia. Auctore Bernard. Gotsche Baumgarten, M. D. Hauniense. 8vo, Hauniæ.

WHETHER Hydrophobia was or was not known to Homer and Hippocrates, Dr Baumgarten thinks is a matter of little importance in practice. But he is inclined to adopt the opinion of those who contend that it has existed in all ages. He defines it to be a permanent, insuperable aversion to water, or any other fluid to be drunk, not depending on any known difficulty of deglutition. From this definition, a distinction is afforded between the present affection, and that aversion to fluids which takes place in angina, in nausea, in cases of despair, and other similar affections. That the Hydrophobia which takes place in rabies is essentially different, from the aversion to fluids in the diseases mentioned, is certainly true.

true. But at the same time, the definition here given is perhaps exceptionable; for we apprehend, it cannot with propriety be said, that it does not depend on a known difficulty of swallowing. On the contrary, there is reason to believe, that the hydrophobia is entirely the consequence of association of ideas, from the recollection of what the patient has formerly suffered, in attempts to swallow liquids.

Hydrophobia has by some been divided into different species, according to the animal affected; but, in the present work, the author proposes to treat only of the human hydrophobia. Even this, he observes, has a considerable number of varieties, and differs with respect to its object: for the patient has sometimes only an aversion to swallowing or tasting fluids; at other times, the aversion extends to the touch, the sight, or the noise of fluids; or, in short, to any thing which can recal the idea of them to the mind. It differs with respect to the sensation excited, as being either a mere simple aversion, or as giving rise to horrors, tremors, anxiety, pains, convulsions, faintings, and the like. It differs with respect to various associations; as, being sometimes without any

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inclination

inclination for liquids; sometimes with intolerable thirst; sometimes with, sometimes without, concomitant fever, rabies, or any other disease. It differs according to its tenor, being in some cases constant, in others admitting of remissions and exacerbations: And, finally, it differs according to its origin, being in some cases spontaneous, in others arising from a poison communicated as it were by inoculation. It is of this last only, and indeed of that communicated by an hydrophobous animal, that Dr Baumgarten means more especially to treat.

The inoculated human hydrophobia, exclusive of its known cause, a probable opportunity, viz. for the introduction of virus into the body, has now no other characteristic marks excepting the aversion to drink, dyspnœa, anxiety, and convulsions, accompanied with pains in the place first affected, and in the stomach. In some, indeed, there occur febrile commotions, thirst, delirium, priapism, and other symptoms; but these are less constant. On the other hand, there are examples, where, with the assemblage of the other symptoms mentioned, evidently arising from hydrophobous

bous poison, there has existed little or no dread of water. It is, however, our author imagines, probable, that, in these cases, the disease had either terminated fatally, or yielded to art, before arriving at what might be called its highest degree.

Authors, Dr Baumgarten observes, have usually divided the course of hydrophobia into three stages; but he thinks it may more properly be divided into two; the first beginning with the introduction or application of the poison, the second with the manifest aversion to water: the one, however, may, he thinks, be properly viewed as the prelude to the disease, the other as the disease itself. In some cases, between the 'introduction of the matter and the first symptoms of disease, almost no time elapses; in others, a very remarkable interval. Symptoms are most commonly observed to occur between the twentieth and fortieth day. But there are many cases on record, and a great number of them are here quoted, in some of which it appeared much sooner, and in others much later. Many causes, our author observes, have been assigned for these varieties; such as, the sensibility

of the place bit ; the irritability of the habit ; the ferocity of the animal biting ; the heat of the climate and the like : but nothing certain, he contends, has yet been established on this subject.

When the hydrophobic virus becomes active in the body, the symptoms induced may be referred to three heads ; those, viz. which take place in the part affected ; the affections of other parts of the body ; and the affections of the mind of the patient. As to the symptoms at the affected part, a variety of ridiculous accounts have been given, such as the opening of the wound : but Dr Baumgarten observes, that the only certain affection is, some peculiar feeling in the affected part and its neighbourhood. This chiefly appears under the form of pain, of the prurient, lancinating, pressive, or ardent kind. This pain returns at intervals, and is not confined to the affected part, but shoots from thence to different parts of the body, particularly to the trunk and fauces, giving a sense of strangulation.

Dr Baumgarten next gives a very minute and distinct account, both of the corporeal and mental affections which take place in the progress of the disease : but as his account is entirely

tirely extracted from other authors, and differs very little from other histories, we shall not here offer any analysis of it. We may only mention, that among other hydrophobic symptoms from fluids, he takes particular notice of a circumstance omitted by most authors, the dreadful commotions excited by injections, where the patient neither sees any thing of any fluid, nor can even be supposed to be much affected by its touch.

With regard to the prognosis, he observes, that, before the dread of water begins, a cure is not only possible, but even not unfrequent; but, when this symptom becomes manifest, the disease, he thinks, may justly be considered as desperate; for he considers all those cases, where a cure has been alleged to have taken place, as being instances of hydrophobia, proceeding from some other cause than the bite of a rabid animal.

The prophylaxis, he observes, is performed with greater ease and success. But, among the different practices recommended for this purpose, those, he thinks, deserve the greatest attention which operate chiefly by destroying or removing the virus. For this purpose, he

advises the cutting out the part completely, or burning it deeply with a hot iron, and immediately cutting out the eschar; for he considers mere dilatation, scarification, lotion, cupping, and the like, as being much more precarious. In every case, he recommends that the wound be kept in a state of suppuration for the space of a month at least, and that all the neighbouring parts be rubbed with mercurial ointment.

Bathing, on which the ancients placed so great confidence, modern experience has, he observes, proved to be useless; and therefore, to persist in it would be cruel. Mercurial remedies, particularly when introduced under the form of friction, have, he observes, obtained the highest reputation; but, upon the authority of Drs Munch and Sibbern, he also mentions the belladonna as a valuable remedy. He considers what has been said in support of the efficacy of the Tonquin powder, cantharides, scarabæi, opiates, lichen tenebris, anagallis, and various others, as rested upon a much more uncertain foundation. He observes, there is no internal remedy whatever which has not repeatedly failed; but, upon the whole,

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he thinks the belladonna preferable to any with which we are yet acquainted.

When hydrophobia terminates fatally, death occurs in different ways. Some die during the exacerbation, others in the remission. Death is commonly preceded by a weak pulse, great dyspnœa, cold sweats, and involuntary discharge of urine. A favourable termination is commonly attended with long continued sleep, or profuse sweat, and sometimes with the urine depositing a copious sediment.

The dead bodies of patients cut off by hydrophobia, in general run into putrefaction in a very short time; and the dissection of them has given little certain information. On this subject, he contents himself with referring the inquisitive reader to the works of Morgagni.

He next proceeds to treat of the causes of this disease: And here, he observes, four different kinds are to be considered; the predisponent causes; the prior occasional or communicating causes; the posterior occasional or exciting causes, and the proximate cause. That some predisposition is necessary, he thinks manifestly appears, from numbers being bit
without

without any infection following ; and that, too, where no antidote or precaution of any kind has been employed ; while, at the same time, there could be no doubt that the infectious matter was fully applied. But while predisposition is thus demonstrated, we are, he observes, still ignorant in what it consists.—He thinks it however probable, that a latent virus, which, without some new contagion, would never produce any bad effect, may be considered as the predisposition to this affection.

The communicating cause, he observes, consists alone in infection ; but there are various animals by which it has been alleged to be communicated. Thus, there are instances upon record, in which it has been said to arise from the bite of a cock, a swan, or a goose, when highly enraged. But as these animals were not themselves hydrophobic, Dr Baumgarten doubts how far the disease induced could be considered as real hydrophobia. The human species are most commonly infected by dogs, wolves, or cats ; but they may be infected also by men themselves ; and it has been alleged, that this may be done either by biting, by kissing, or even by the application
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of the saliva to the skin. But he admits, that the testimonies in support of some of these last causes are but few and suspicious only; and he thinks it probable, that an hydrophobic man can hurt others only by the bite.

It has been alleged by some, that the flesh, the milk, the blood, the halitus, and the dissection of hydrophobic animals, had produced the disease. But there are, our author observes, many well-attested cases proving the contrary; or, at least, he contends, that there are instances where the flesh and milk have been taken with perfect impunity; and many have dissected the bodies, both of men and other rabid animals, without the smallest injury. He thinks it probable, that the saliva in dogs and foxes is the most common, if not the only vehicle of the hydrophobic poison. But this he thinks somewhat more doubtful in the case of cats, who have been said to communicate the disease by scratching. He considers it as a still more doubtful point, whether there be any possibility of infection without some wound of the skin; but he thinks it not improbable, that such infection may take place at the mouth and nose, where the skin is very tender.

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As posterior or intermediate occasional causes, which render the virus active in the body, when it lodges there in a condition in which it is productive of no bad effect, and might never, perhaps, be productive of any, he enumerates terror, and anger.

With regard to the proximate cause of inoculated hydrophobia, Dr Baumgarten observes, that the limits of his work will not allow him to state the sentiments of different writers. He therefore contents himself with merely offering his own. He considers the disease as being what he calls a virulent convulsive affection, while he looks upon spontaneous hydrophobia as being merely convulsive without virulence. The virulent nature of the disease is proved, he thinks, not only by its origin, but also by the method of cure; for he observes, that we scarce read of any cases successfully cured, either in the beginning or progress of the disease, without sweat, or some other obvious evacuation.

How far any of our readers will be disposed to adopt all Dr Baumgarten's reasoning, we will not pretend to say; but it will at least be allowed, that the subject of which he treats, is one meriting the utmost attention, and with
regard

regard to which we are still much in the dark. It is indeed true, that many ingenious treatises have lately appeared upon the subject, particularly one by Dr Robert Hamilton of Ipswich; and the learned Dr Percival of Manchester has communicated to many of his friends hints towards the investigation of the nature, cause, and cure of Rabies Canina, which will probably be published in the Manchester Memoirs. But, notwithstanding all that has been done, even the prevention is by no means on a footing so certain as could be wished; and with regard to the nature of the disease, we are still, in many particulars, almost totally in the dark.

XVII.

Abhandlung ueber die venerische Krankheit, &c.
i. e. *A Treatise on the Venereal Disease.* By
Chr. Girtanner, M. D. Member of the Royal
Society of Gottingen. In three volumes. 8vo,
Gottingen*.

THE first volume of this valuable treatise upon the venereal disease is divided into five books. In the first book is contained the history of the disease. In this part of the work, Dr Girtanner bestows great pains in giving a full refutation of the specious and ingenious arguments produced by Dr Sanchez and Dr Hensler, in order to prove the antiquity of lues venerea. He shews, with great erudition,

* For this analysis of Dr Girtanner's work, we are indebted to an ingenious friend, Dr Jachmann of Koningsberg, from whom we hope to obtain future valuable communications.

erudition, that all their arguments are founded upon false facts, and that the consequences drawn from them must, of course, be erroneous.

In the following chapter, the author demonstrates, by the most forcible arguments, and the testimonies of all the cotemporary writers, particularly the Spanish ones, that the venereal disease was unknown in Europe, before the 4th of March of the year 1493. Concerning the origin of lues in America, Dr Girtanner proposes a new and an ingenious hypothesis. Americus Vesputius, the famous navigator who gave his name to the new discovered world, relates, that the women in America used to apply to the genitals of the men certain poisonous insects, to stimulate them. This singular custom, our author supposes, may have produced a specific inflammation, and a pus of a particular nature; which, deposited in the vagina of the women, may have there caused the same specific inflammation, and thus propagated the disease. In the same section, we find some new and curious observations on the nature of the venereal poison, and on the venereal infection.

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In the second book, Dr Girtanner treats of local symptoms. Internal remedies in gonorrhœa are, he affirms, of no use; and what he considers as the safest and best method of cure, is the injection into the urethra of a solution of opium. The same injection, with the addition of lime-water, will, he tells us, cure venereal gonorrhœa in women. Swelled testicles, acute venereal ischuria, and venereal inflammation of the eyes, are, in Dr Girtanner's opinion, entirely sympathetic disorders, produced by a high degree of inflammation in the urethra. He considers the venereal poison as in these cases never leaving the lacunæ of Morgagni, where it was first deposited. Against these troublesome symptoms, he proposes a new method of cure, confirmed by his own experience in practice.

In the chapters in which he treats of gleets, of strictures, of ischuria and of fistulæ in the perinæum, he illustrates the nature of these affections by several curious cases, which have occurred in his own practice. Venereal chancre he considers as a local symptom only; and he relates several cases, to prove that absorption does not take place, till a very considerable

able time after the first appearance of chancres. Hence he concludes, that chancres might always be cured by being treated locally merely, without any mercury being taken internally. This practice he the rather recommends, because he thinks it proved, that mercury given internally cannot be of any use, before symptoms of absorption appear. Mercury does not, he thinks, act upon the venereal virus till it has undergone a certain change in the body, with which we are not yet acquainted.

The practice which Dr Girtanner recommends for the cure of chancres, consists in applying a solution of caustic alkali to the chancre, so as to produce inflammation and suppuration; and this, he contends, will prove effectual without giving any internal medicines.

The chapters on phymosis, paraphymosis, venereal warts and excrescences, contain several new and curious observations. The common practice of rubbing mercurial ointment on the inside of the thighs, in venereal buboes, being attended with disagreeable consequences, and the effect of these frictions being nothing farther than that of acting as a stimulus to the lymphatics, and increasing their absorbent

power, Dr Girtanner recommends a new method of discussing buboes, which he affirms he has employed with the greatest success, in his own practice. It consists in making use of the volatile liniment instead of mercurial ointment. This also he directs to be rubbed on the inside of the thighs, and other neighbouring parts. He contends, that it never fails of discussing the swelling in a much shorter time than the mercurial ointment.

In the third book, Dr Girtanner gives a complete list of all the remedies recommended as preventives, from the first introduction of the venereal disease till the present time; and he shews, that of all the remedies recommended for that purpose, there is not one which will infallibly prevent the venereal infection.

The fourth book treats of confirmed lues, or syphilis. Here Dr Girtanner examines the doctrine of the morbi venerei larvatae, and proves, by many forcible arguments, that these have no existence.

In the following chapters, the author treats of mercury, of its action on the human body, of salivation, of the practical rules to be observed in the administration of mercury, of the different methods in which it has been applied

to the human body, of the different mercurial preparations, and of quack medicines. The method of exhibiting mercury, which Dr Girtanner prefers, is that of giving it under the form of calomel, or of the pulvis mercurii cinereus, adding a grain or two of opium, as soon as symptoms of increased irritability appear in the system.

Vegetable remedies, Dr Girtanner thinks, have been too much neglected in the cure of syphilis. He gives an account of twenty-three vegetables recommended by different authors in the venereal disease. The last of these is the * *astragalus exscapus*, a new remedy, lately strongly recommended at Vienna. In addition to what had formerly been published respecting the *astragalus*, its efficacy is proved by ten new cases, related by Dr Crichton in a letter to Dr Girtanner.

The fifth book treats of the venereal disease in children, and contains some new and curious observations. In the second and third volumes, the author gives a review of all the

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* Our readers will find an account of this remedy in the analysis we gave of Dr Quarin's *Animadversiones Practicæ*, vol. II, decade II. page 176.

books published from the introduction of the disease into Europe in 1493, to the present time, with extracts of what is principally worth attention. The number of books reviewed is 1802. To the work is added an appendix, which contains extracts from Spanish authors of the sixteenth century, as additional proofs of the American origin of the venereal disease. Upon the whole, we may venture to say, that from this work, the long continued dispute on the antiquity of lues may be considered as finally settled, and its American origin so fully established as to exclude the possibility of doubt.

SECT.

S E C T. II.

Medical Observations.

I.

History of a Case of Insanity, cured by the use of the Digitalis Purpurea. Communicated to Dr Duncan, in a Letter from Dr Joseph Mason Cox, at Fishponds, near Bristol.

DR WITHERING, in the year 1785, having related several cases in which the digitalis purpurea succeeded in the cure of insanity, and your Commentaries for 1786 containing two more of the same kind, I was induced to try it in one that occurred to me lately.

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Having observed, from the reports of several practitioners who had employed it, that the foxglove possessed the peculiar property of reducing the pulse, and of occasioning very great nausea, I had recourse to it in the case I am now to relate, principally as a debilitating power, hoping by its exhibition to bring on a remission of a most furious maniacal paroxysm. I was pleasingly surprised to find that the event far exceeded my most sanguine expectations ; and that by means of this powerful vegetable, I was enabled to restore a very valuable member of society to reason, and to himself. And as the hint was suggested through the channel of your excellent annual publication, I have taken the liberty of troubling you with the particulars of the case, hoping that you may think it worth communicating to the world ; as some one of more abilities may improve upon the practice, and the result may ultimately tend to the benefit of mankind.

Though the medical world cannot but acknowledge their gratitude to the labour and industry of the most skilful anatomists of different ages, for their dissections and investigations

gations of subjects who have laboured under different species of insanity, and for the accurate and minute histories handed down to us; yet it must be sincerely regretted, that the result has been by no means adequate to the labour. Our knowledge of the human mind, and of the connection between it and the body, must ever be very limited; while we know so little with respect to the destination and offices of the several parts of such a complicated structure as the brain. Haller asserts, that in some cases of insanity no preternatural appearance was observed; and where it was discovered, we are so far from being able to perceive an uniform connection between any one disorder of the mind, and a morbid appearance of the contents of the skull, that the very same states are exhibited after the most opposite disorders, as phrenzy and idiotism. But although, as Dr Arnold justly observes, much uncertainty will ever attend our researches into the several specific states of the brain respectively productive of the several sorts of insanity, yet, where we can suspect the cause, though we may be ignorant of its mode of action in producing the disease,

we are authorised, on the most rational principles, to place the greatest hopes of success in the administration of those remedies which are particularly adapted to obviate its effects.

It is upon a principle of this kind, that we may perhaps account for the influence of the digitalis in effecting the several cures imputed to it, as well as that I am about to relate. Since a superabundance of aqueous or serous fluid, extravasated in the different parts of the brain, as in the ventricles, between the dura and pia mater, &c. have been suspected to be the causes of insanity in many instances; since we see the effects of water in the brain, in cases of hydrocephalus; and since we know that the foxglove has a particular power of evacuating extravasated fluids, we may from thence be led to explain its efficacy in those cases, and in that which I am now to relate.

Mr P. M., aged 40, rather of a corpulent habit of body, naturally of a gay and cheerful disposition, had for several years enjoyed an uninterrupted continuance of health, excepting an occasional pain in the head, which he termed a pulsing pain, which however continued

tinued only for a few hours, and left him in perfect health. Having by indefatigable industry in an active line of business accumulated an independency, he was induced to retire, to enjoy the fruits of his labours in ease and affluence. But forgetting that the means by which he had amassed his fortune, were the source from whence he derived health and spirits, he quickly became listless and inactive, was dejected, peevish, and whimsical, and at length his ideas were confused, and his judgment deluded. He complained of no bodily pain, excepting his usual headach, and a stiffness of his lower extremities, which in the evening appeared rather swoln and anasarcaous. He was habitually costive, and often passed several days without a stool. His urine was diminished in quantity, and at the same time limpid and thin, depositing no sediment. He was very subject to acid eruptions and borborygmi; his appetite was impaired, his thirst increased, he slept but little. His sleep was without refreshment, and accompanied with terrifying dreams.

These were his principal original symptoms; and they gradually increased, although the
best

best medical assistance was procured with a view to their removal. At length, from a settled melancholy he became most furiously maniacal; and it was judged proper to remove him to some place of confinement. He was accordingly committed to my care, on the 22d of June last: But, previous to that, he had undergone pretty severe medical discipline. He had been blistered on the head, the back, and the calfs of the legs; he had been repeatedly blooded, purged, and vomited, and had taken draughts, with gum-ammoniac, sagapenum, tinctura melampodii, steel, &c.

I found him very much emaciated. his pulse feeble, and beating to eighty and upwards in the minute; his countenance fallow, the eyes red, sunk, and looking fierce and staring. He had not had a stool for a week; and the urine continued in small quantity, and pale, notwithstanding his debilitated state. His ravings and exertions required constant confinement and attendance. Although in general he talked in the most incoherent manner, running from one subject to another without the least order or connection, yet he would reason on some topics with the utmost acuteness for a certain time,

time, but quickly relapse again into his former ravings.

I began my curative attempts by administering a laxative emollient clyster: but this not succeeding, I had recourse to one more stimulating, which brought off several pounds of very foetid fœces. Thinking, from his present debilitated and emaciated state, that the antiphlogistic plan had been too rigidly adhered to, I imagined it would be most prudent to suspend the use of medicines for a few days. But the symptoms suffered no kind of remission: he passed day after day in cursing and raving, and night after night without sleep. I then ordered an emetic solution to be prepared, with twelve grains of emetic tartar, one grain to be exhibited every half hour till it operated. But no obvious effect was produced, till ten grains were taken, when full vomiting took place. This brought off much viscid phlegm, and bile; but no remission of symptoms was produced, nor was there the least languor after the exertion attending the operation of the emetic. His pulse continued about eighty, though feeble. As he had not enjoyed an hour's sleep during the whole

whole time he had been under my care, I had recourse to repeated doses of opium, under the form of paregoric elixir in camphorated julep, with the pediluvium continued for an hour each night, and a laxative draught every morning. Having continued this for a week without the least obvious effect, I almost despaired of relieving him, from his system being so exceedingly insensible to the action of medicines; which however is no uncommon case with maniacs. But observing the diminished quantity of urine, and a degree of tension in the left hypochondrium, I began to suspect a serous effusion, and accordingly had recourse to the common diuretics, cream of tartar, elaterium, squills, mercury, &c.; but all of these failed in producing the desired effect. The latter, indeed, run off by the bowels, till corrected by opium, which I exhibited once to the amount of two drams in six hours, but without the least sedative effect.

At this time, viewing the case as a very helpless one, the idea occurred to me of trying the digitalis, which is represented as producing such remarkable effects in diminishing the pulse. I accordingly prepared a decoction,
by

by boiling an ounce of the dried leaves of the digitalis in a pound and a half of water, till it was reduced to a pound, and directed three spoonfuls to be taken every third hour. It produced no seeming effect, till after the third dose. An evident nausea was then produced, succeeded by full vomiting of viscid phlegm, and green crude bile. The flow of urine was increased, and the pulse reduced nearly to the natural standard. The nausea continued at times the two following days, though no more of the decoction was given. But I was again tempted to repeat the dose, from so favourable a beginning. The effect was nearly the same as before, excepting that the flow of urine was diminished, and several loose stools were produced. I therefore ordered another dose of opium, which was succeeded by five hours sleep, the first that had been procured during the last fortnight. I found my patient in the morning much more composed, though he complained much of nausea: he was evidently, upon the whole, much better. I therefore omitted the medicine wholly for three days: but on the fourth all the former symptoms returning, I had again recourse to the

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the decoction. It now produced no nausea, but the flow of urine was much increased. I therefore continued small doses of the decoction, with an opiate at night, during nine days. At the end of that time, my patient seemed much better, both in body and mind. He spoke with propriety on a variety of subjects, and on his late complaints with philosophic coolness, though he complained that he had but an imperfect recollection of them. His appetite mended, and the various functions became natural. I then left off the medicine gradually, each day adding to his strength, appearance, and recovery. He is now perfectly restored, and has continued for the last six weeks as well as ever he was in his life, without having had any return of his usual headache.

II.

Histories of two Cases, in which, after Suppuration at the Perinæum, the Urine was discharged at preternatural Openings. By Dr Mathias Gahagan, Physician in Grenada.

D. S. (a taylor) for several years had been attacked occasionally with a suppression of urine, and symptoms of inflammation at the neck of the bladder, which had their origin in a neglected gonorrhœa. The returns, although not so frequent at first, induced him, in the year 1785, to go to Europe, where he got much better.

On his return in 1786, he addicted himself as formerly to drinking spiritous liquors, which, with other irregularities, brought back his complaint with considerable violence. After repeated attacks, it assumed the form of an irregular intermittent, attended with suppression of urine, ending in copious perspiration. The attacks were often of unequal duration, resembling

sembling much those of the lymphatic affection prevalent at Barbadoes.

By evacuations, sudorifics, diuretics, and the use of the bark, he had intervals of health ; but always laboured under more or less affection at the neck of the bladder. Sometimes his urine came away involuntarily ; at other times, a total suppression took place. Whenever he indulged in drinking, and exposed himself to cold, a paroxysm of irregular intermittent occurred, attended with pain and tension at the neck of the bladder. Bleeding was practised occasionally, and the warm-bath tried.

At last, after repeated attacks, he began to feel, in the perinæum, swelling, and a burning sensation, attended with shooting pain, up to the neck of the bladder.

Antiphlogistic and anodyne medicines were used, and emollient fomentations employed, but without effect. A medical friend being called in, recommended the mercurial pill, with a large proportion of opium, and the use of it to be pushed to a considerable extent. This was done, and the topical applications were continued.

In two or three days, the symptoms of inflammation increased greatly, and the swelling and tension threatened suppuration, if not gangrene. To prevent this, the topical applications were strongly recommended, and assiduously applied. But sudden ease, and a beginning livor, soon made us dread the worst consequences.

We immediately entered on an antiseptic plan. The patient had been greatly weakened by the continuance of this last attack, and and by profuse sweats. We therefore ordered the bark in pretty large doses, with a little rhubarb now and then in it, to keep his body open; and we directed antiseptic fomentations.

Little or no urine had been discharged from the first attack; but the discharge by the skin seemed to make up for the want of a discharge from this emunctory. I had frequently tried bougies, which I had strenuously insisted on; but although I had passed a small one, I could never prevail upon my patient to submit to so painful an operation again, alarmed at a quantity of blood that had followed, when the bougie was withdrawn.

In this trial, I felt no resistance but at the neck of the bladder, nor any feel of caruncles. I was reduced, in the progress of the last affection, to the necessity of trying to introduce a catheter, to relieve the patient, who for several days felt excruciating pain from the distension of the bladder. Diuretic, antiphlogistic, and emollient medicines had also failed. But the attempt was in vain; I could not introduce it.

The progress of gangrene was rapid; and the whole of the cellular substance round the sphincter ani began to slough. The livid appearance extended to the root of the penis, and even along the scrotum.

In this situation, our patient being reduced, and almost exhausted, every moment threatened his dissolution. He took, however, his bark and Port wine with uncommon resolution: every diligence was used to apply, without intermission, the topical application of fomentations, composed of camomile flowers, the stinking weed (which is a strong stimulant bitter), vinegar, bark, and high wines. No assiduity was wanting; and the patient swallowed
his

his bark and wine with the avidity of one who grasps at life.

In less than 24 hours, the slough began to detach itself; and the sound part had a favourable appearance. Every hour after, the appearances grew better; until, at the end of several days, the sloughs, by the help of adhesive applications, came clearly off. Beneath was to be seen a beautiful view of the sphincter ani, the origin of the acceleratores muscles, the erectores penis, the os ischium, and the bulb of the urethra, from whence an opening took place, apparently through the prostate gland into the bladder; the urine issuing by that passage as soon as the slough came away.

By assiduously pushing the internal antiseptic plan, and unremitting attention in promoting the suppurative process, in less than six weeks, by the kindest and blindest progress of suppuration, every thing promised success.

I must not omit mentioning a singular circumstance that happened.—Soon after the slough had separated, and the suppurative process had commenced, a painful tension and swelling in the left testicle, ended in an opening at the bottom of the scrotum, through

which also the urine had passage. As suppuration and cicatrization went on, I was curious to know the state of the neck of the bladder and urethra, with a view to promote the healing process in the perinæum, and thereby prevent fistulous affections about the anus, and also, if possible, to restore the natural passage. With this intention, I tried to introduce the staff or catheter cautiously, after a bougie had failed. No urine had from the beginning passed naturally. My expectations led me, perhaps unskillfully, to expect, that if it could be restored, the fistulous communication through the testicle might be closed, either naturally or artificially, by the means that are used in hydrocele. Disappointed in my expectations, finding the natural passage still obstructed and impervious, and the cicatrix in perinæo completely formed, I was happy to find the other outlet continued open; and, except a discharge which is sometimes made, guttatim, through the urethra, is the only passage the urine has had now for 18 months, although this man has enjoyed, in general, the best health.

We

We have had a similar case since the one already described. A stout negro, who had concealed a gonorrhœa until it became virulent, was attacked with symptoms of strangury, which bleeding and the warm-bath soon relieved. The same affection recurred frequently; and at last he began to feel tension and pain in the perinæum. Bleeding, the warm-bath, and diuretics, as well as sudorifics, failed. The region of the bladder became exceedingly tumid and painful. The catheter, which was introduced with some difficulty, brought off his urine, and relieved him. But the other symptoms went on, and baffled all our attempts. At last, by poultices, after fomentations had failed, it was brought to supuration, and opened. The inflammation was circumscribed more than in the other case, and no tendency took place to gangrene: on the contrary, the discharge, which was copious, was laudable pus. It ended, however, in a fistulous opening in perinæo, through which he ever after passed his urine. He

died lately cachectic; from having addicted himself to excessive drinking.

In the case of D. S., the use of opium and calomel in large doses, was pushed freely, and with some confidence, from the very respectable authority of Dr Hamilton of Lynn-Regis, from whom the medical world had received the most decided testimony in favour of these medicines. We not only had the mortification to be disappointed, but it was almost certain, that they accelerated the termination by mortification. It is very true, that the commencement, progress, and rapidity of the symptoms, were marked with peculiar violence.

It was long after this case fell under my observation, that I had the satisfaction to peruse the work of a very celebrated author, written expressly on the subject*. In it I found a case somewhat similar, and many ingenious observations, which throw light on the disorders incident to the parts of generation. But I
am

* Mr John Hunter's Treatise on the Venereal Disease, *vide* pages 147, 148, 149.

am free to confess, that I never once thought, nor was the idea suggested by any medical friend, of using a caustic, when the bougie and catheter had failed, to open the natural passage; more particularly as it was very probable, that in the two cases which I have mentioned, the structure was of the spasmodic kind at first, and seated in the neck of the bladder. The want of resistance, or feel of obstruction, as far as I was able to judge, in many trials, any where but at the entrance into the bladder, as well as the periodical attacks, and the obvious occasional causes, made us form this opinion. By frequent recurrence, and increased irritability, all the contiguous parts became affected. In the first patient, the rapid progress and violence of inflammation about the sphincter (and this was an active tension, and increased action of all the subjacent vessels, not the consequence of urine extravasated, or previous ulceration) rendered it impossible almost to satisfy ourselves by an examination in the rectum. In the other, the neglect of the patient himself, and the inattention of those about him, did not suffer us

to be acquainted with the case, until purulent matter was formed.

I have sincerely wished to attempt the restoration of the natural passage in D. S., as now the obstruction may consist in a stricture, the consequence of inflammation, or a thickness of the sphincter, and induration of the prostate gland; more particularly as, upon consulting him, and examining the state of the parts, I have the pleasure to find, the obstruction in the natural passage is greatly diminished, and his urine frequently passes by the urethra with considerable ease; and as the fistulous opening in the scrotum discharges large quantities of pure pus, and seems to make progress downwards, towards the cicatrix in perinæo. But his dreadful alarms, and the present contented state of his mind, together with the good state of health he enjoys, are obstacles, as well as considerations against making any farther attempt. We should have been obliged to puncture, had not nature appeared to relieve him constantly, by copious sweats, and had not the termination already mentioned happened sooner than was expected.

III.

The History of a Case, in which singular Tumours from indurated and enlarged glands produced a fatal termination. By Dr Matthias Gahagan, Physician in Grenada.

A MEDICAL Gentleman, of a very robust constitution, and a strong rigid fibre, aged about 35, who had, for many years, with indefatigable zeal and industry, performed the most fatiguing duties of a very extended practice, began to feel some stiffness and slight pain above the left clavicle. Small indurated swellings soon appeared in the course of the glandulæ concatenatæ. At first he took little or no notice of them, attributing them to the constant use of the left, or bridle-hand, in riding. They increased gradually, until they became prominent, particularly above the clavicle, and felt soft under the finger, extending a little above the clavicle, and along its course

to the sternum; one of them pressing sensibly on the trachea. Above them the glands were less enlarged, but indurated. After they had continued a very considerable time without alarming him, so as to induce him to try, with any serious attention, means for preventing their progress, (a few deobstruent medicines, and some external applications, which seemed to do more harm than good, excepted), he was seized in the morning with tickling cough and nausea, which soon went off. They recurred again for several mornings at the same hour, and became more troublesome; but generally went off in the space of an hour, or an hour and a half. The periodical return of the attack, and the affection of the stomach, induced him to try gentle evacuation, and the use of Peruvian bark, attributing the above symptoms to an accumulation of bile in the primæ viæ. He continued the bark several days, without any effect. The symptoms increased, the nausea becoming more troublesome, attended with vertigo, and tendency to deliquium animi, which was to be prevented only by a recumbent posture. The paroxysm went off with great nausea, sickness, and sense of anxiety and weight about

about the præcordia. The rest of the day he was free from every symptom, except languor and loss of appetite, which diminished daily. In this way he passed a considerable time, without attending to the tumours in his neck; conceiving, that the torpid state of the alimentary canal, and the increase of bile, might account for the symptoms.

His medical friends, among whom were his partner and his brother, began to be alarmed, lest the glandular indurations and swellings, by pressing on the large vessels of the neck, as they continued to increase considerably, should occasion the symptoms, and be the foundation of a fatal affection. With a view to prevent this, they earnestly recommended the use of deobstruents, directing gently the patient's attention to what they conceived might be the cause of the other symptoms, without alarming him. But his own opinion being strengthened by a frequent discharge of bile by vomiting, he did not push this plan as far as it was wished. He had recourse to evacuation, and change of air.

The symptoms continued more frequent, and more urgent; and digestion became much interrupted,

interrupted, by the frequent recurrence of nausea and vomiting, as well as by the obstinate costiveness, which continued to increase, notwithstanding the constant use of laxative, and even purgative medicines.

He was sensible often of a weighty obstruction in the region of the colon; which he compared to the effect of a bar across the abdomen, affecting even respiration, and causing frequent sighing.

Growing daily worse, the symptoms becoming more alarming, more frequent, and more violent, he tried sea-air, but without effect. The constant and excessive vomiting, and consequent debility, obliged him to give up the trial after a few days, and return to his friends in town, after three weeks absence, during which he became greatly emaciated, and underwent excruciating torture, by the frequent attacks of the symptoms already described; which obliged him often, when taking the air, by the advice of a worthy medical friend, at whose hospitable mansion he enjoyed all the benefits of skilful advice and friendly attention, to alight and repose himself, until the nausea and vertigo ceased.

On

On his return, a symptom, hitherto unattended to, did not escape the anxious solicitude of a distressed brother and a sympathising friend. An evident pulsation and tumour were felt, a little above the umbilicus, and somewhat more to the left side, obliquely.

On the most mature deliberation with other medical friends, it was dreaded, however improbable *a priori*, or uncommon from occurrence it might appear, that this might be an aneurism of the aorta descendens. The intolerable anxiety, pain, faintness, but more particularly the strong pulsatory feel around, and the sensation, on pressure, of a fluid rushing as if through a small passage, with a fluctuating noise, strengthened the opinion. But an enlargement of the mesenteric glands, or of the pancreas, in the sunk state of the abdomen, might be supposed to communicate pulsation very sensibly to the surface; and a glandular affection seemed to exist generally. The strength of the coats of the aorta, as well as the nature of the circulation here, favoured by gravitation, seemed to render such an opinion improbable.

The

The prognosis was equally unfavourable from either opinion. The progress of the disorder was too great to admit a gleam of hope. To allay the symptoms of vomiting and pain, recourse was necessarily had to anodynes, which procured temporary relief. Their necessity increased with their use. A marasmus thus followed the interruption of digestion and nutrition. Gentle tonics were given, and injections thrown up, with a view to keep some regularity in the peristaltic motion. Whenever he had a stool, which was seldom, it was with great sense of constriction about the colon, and pain; and, not unfrequently, with a tendency to deliquium animi, that he passed it. He compared his pain often to a feeling of laceration internally.

After a most painful and lingering illness, which he bore with uncommon fortitude, he resigned himself to his fate; as sincerely, as he was deservedly, regreted by a very respectable society, to which he had endeared himself by a placid temper, a benevolent disposition, amiable manners, zeal in his profession, and unimpeachable integrity of character.

On

On dissection, the integuments and muscles, with the peritonæum, being divided, the stomach appeared turgid and prominent. On pressure, a very large tumour was perceived, just below the stomach, and under the colon, which felt somewhat of the consistence of a polypous concretion. This circumstance, with the fluctuation felt in parts of it, and the firmness of the root, which seemed evidently connected with the large trunk of the aorta descendens, gave a confident opinion of aneurism. The stomach, and all the alimentary canal being carefully removed, that we might view the tumour *in situ*, except a portion of the colon, which adhered firmly to its upper part, it appeared to occupy, obliquely, the space of about seven or eight inches in length and five in breadth, of an oblong figure, which leaned in its thickest part towards the left side. It had, on the right, two appendages, as large as the egg of a goose or turkey, which adhered by cellular membranes to the right kidney. The opinion of aneurism made us careful in dissecting it, from a wish to preserve it. Having tied the artery near its division into the iliacs, and again three or four inches higher up than the
tumour,

tumour, I dissected the whole, from the vertebræ, with caution, and placed it in a large bowl for inspection *. All the abdominal viscera were found, except the right kidney, which was much lessened and shrunk, from pressure; and the liver, which appeared a little enlarged. On examining the diaphragm, I felt, about the height of the thoracic duct, another tumour, but more detached. The sternum being removed, and the lungs, that we might view the heart and carotids, as well as a cluster of tumours which were felt under the clavicle, I carefully dissected away the heart and left carotid with the cluster of tumours already mentioned. Great care was taken to remove all as entire as possible, as our opinion became more confirmed about aneurismal sacs, from the feel and fluctuation in many of these tumours, which enveloped the large blood-vessels from the arch of the aorta to the entrance into the head. When removed, and placed favourably in a bowl, to be sure of their true nature, and at the same time not to disfigure the appearance, we chose one,

* The tumour could not have weighed less than 8 lib.

one, which from fluidity and contiguity seemed to be likely to remove our doubts; but on cutting into it, though a dark fluid spouted, we could discover no communication with the artery. We examined others, and were equally disappointed. We next laid the artery open in its course, as well as all the large branches, but found no appearance of rupture or dilatation. We then examined minutely the substance of the tumours: Some contained fluid blood, blacker than natural; others had grumous concretions; but most appeared, on cutting, to be glands, and were most certainly the *glandulæ concatenatæ*. Some had the appearance of hydatides, and their contents were of a serous nature.

We then proceeded to examine the large tumour; and, after laying the aorta descendens open in its whole length, we found no mark of disease, excepting an inflammatory redness of the coats immediately under the tumour, which appeared to press intimately on this part. No rupture or dilatation could be perceived.

As we wished to preserve this tumour, we only made one or two deep incisions, to dis-

cover its contents. They exhibited every evidence of glandular induration; they had a marbled appearance, and in some parts there was absolute pus. They were evidently several glands of the mesentery and mesocolon, enlarged to a prodigious size, so as to give the appearance of one uniform tumour. On their edges, we were able to unravel their connection, by cellular medium; but wishing to preserve their look as much as possible, we did not examine minutely their number. Unluckily this substance was not put in spirits for some hours, and was spoiled.

All the other glands of the mesentery were more or less affected with induration.

In his lifetime, he had been very seldom subject to disorders of any kind; although he took more exercise, and underwent more fatigue, than the greater part of professional men; in the most violent heat, often exposed to rain, and vicissitudes of temperature. His constitution was naturally phlegmatic, and the circulation slow, his pulse seldom counting more than 50 in a minute.

IV.

Case of a singular and alarming concurrence of Scorbutic Hæmorrhagies, terminating favourably. By Thomas Fowler, M. D. Member of the Royal Medical and Physical Societies of Edinburgh, and of the Medical Society of London. Communicated in a Letter to a Friend.

ON perusing the thirteenth volume of the Edinburgh Medical Commentaries, I observed an account of a remarkable case of scurvy, which brought to my recollection a case, which occurred many years ago in my own practice, when I lived in the city of York; and as it was attended with certain circumstances, not altogether unworthy of attention, I have taken the liberty of extracting it from my Medical Reports, with a view to its appearance in the same valuable repository of Medical knowledge.

30th April 1771. Miss P—— of York, aged twenty-eight, on rising this morning, discovered on her arms, breast, lips, &c. a number of livid spots, about the breadth of common pease, which appeared like so many black patches. Her gums were very spongy, and exhibited also livid spots, from several of which the blood began to ooze.

She is of a scorbutic and melancholy constitution, has led a very sedentary life, having been constantly engaged in the business of a mantua-maker for these eight years past; during which, she has had an habitual dyspnœa, and frequently complained of her gums being sore to the touch, and disposed to bleed from the slightest pressure. Appetite good. Stools and menses regular. Pulse small and weak, and naturally rather quick.

About five weeks ago, she was seized with a slow fever; from which, however, with medicinal assistance, she recovered in less than three weeks, and has made no complaints since, till this morning.

Ordered to take a powder of six grains of alum, and six of dragon's blood, with ten drops of the acid elixir of vitriol, in three table-spoonfuls.

spoonfuls of a common decoction of Peruvian bark every three hours ; and to wash her mouth frequently with a gargle, well acidulated with vitriolic acid ; also to enter upon a cordial regimen, with the liberal use of red wine, lemonade, and acescents.

May 1st. The number of livid spots, and bleeding from the gums are increased. She has also passed bloody urine ; had two bloody stools, and her breath is become very foetid. Ordered to continue the medicines and regimen.

May 3d. The livid spots still increase, both in size and number ; and therefore, she has taken the medicines, since yesterday, every two, instead of every three hours. The bleeding from the gums, although not violent, has never ceased, day nor night, and is only somewhat abated whilst using the gargle. She has had no stool for these two days, and is sickish in the morning. Ordered to continue her medicines and regimen ; to take a dose of lenitive electuary immediately, and to repeat it as occasion may require.

May 6th. The spots have not increased for these three days ; and their livid aspect be-

gins to lessen. The urine is at times rather less bloody; but the oozing of blood from her gums having never intermitted, has much disturbed her natural rest. She is also become faint and weak from loss of blood. Her medicines have been continued every two or three hours, and her regimen rendered more cordial. The lenitive electuary having had no effect, a common milk glyster was given last night, and procured a stool, which was less bloody. Her appetite is but moderate.

Ordered to omit the styptic powders, on account of costiveness; and to continue the decoction and elixir every three hours; also the more cordial regimen, with the gargle.

May 9th. The bleeding from the gums stopped yesterday. The foetor of the breath seems to be going off; and the spots begin to appear brown. The urine is approaching to a natural colour; but having continued costive, she has taken, occasionally, some decoction of tamarinds with fenna; and, the day before yesterday, had two stools free from blood.—Ordered the medicines and regimen to be continued.

May

May 11th. She mends apace. Stools and urine quite natural. Spots going off. Appetite improved. Ordered to take the decoction and elixir only three times a day.

May 17th. She continues mending. Some spots are quite gone off; and the rest are pale, and vanishing. Appetite good. She gains strength, and walks out every day for the benefit of the air. Ordered to continue her medicines only twice a day.

May 20th. She has no symptoms of her complaint remaining; and is now as well as in her best state of health, being never wholly free from her habitual dyspnœa.

OBSERVATIONS.

In this patient's case, the following causes seem to have concurred in producing the disease. Her scorbutic melancholy habit of body, sedentary mode of life, asthmatic state of lungs, and, in particular, the previous slow fever, from which she might be considered only as a convalescent.

That the hæmorrhagies were of the scorbutic kind, appeared obvious, from the absence of fever, from the fœtor of the breath, sponginess of the gums, numerous livid spots, spontaneous occurrence of the several discharges of blood, and the obstinate continuance of those which took place from the kidneys and gums, being seven or eight days without intermission.

The treatment which has been adopted, lays no claim to merit, superior to the late improvements in modern practice; and therefore, the history of the case is given as an instance of a favourable termination of an alarming concurrence of scorbutic hæmorrhagies; and as a proof, how far the human frame may be successfully supported, by a diligent application of proper means, under a continuance of those discharges, provided they be *neither sudden nor violent* in their accessions or exacerbations.

V.

Account of the good effects derived from the Eau de Luce, taken internally, against the Bite of the Viper. Extracted from a Letter written by Mr John Alexander, Surgeon, in the service of the Honourable East-India Company, to the late Mr James M'Donald, Druggist in Edinburgh; and dated at Dinapore, the 5th of October 1788.

A SUBJECT which has of late very much engaged the attention of the medical practitioners here, is the successful effects of the *eau de luce*, given internally, for the bites of snakes, even of the most poisonous kinds to be met with in this country.

I suppose not less than twelve cases happened, of persons being bit by them at this station; the fatal effects of which were prevented by the timely administration of that
volatile

volatile amberated spirit. Oil of olives, the former remedy applied, is never sought after where *eau de luce* can be had ; and the application of it with any unfortunate sufferer, is as much in the hands of gentlemen unacquainted with the knowledge of medicine as those of the profession. The dose is a tea-spoonful, to be given mixed with a little water : And even when the locked jaw has absolutely prevailed for some time, and convulsions seemed fast approaching, I have heard of the recovery of patients. About a month ago, in the case of a Seapoy, who had been bit about ten minutes before I was called to his assistance, it was productive of the best effects. I gave him the spirit, about forty drops at three different times, which recovered him perfectly within two hours ; in so much that he went to muster next morning.

The only remarkable symptom which had time to spread itself before it was counteracted by the second dose of the *eau de luce*, was that of a considerable degree of palsy of the left leg and thigh, in consequence of his having been
bit

bit just above the ancle of the same side ; and that of the pulse falling so low, that for a few minutes it was almost imperceptible. But how happy was I ! on finding it, soon after the *eau de luce* was exhibited, beat both stronger and quicker,

VI.

Account of the successful employment of Laudanum in the Confluent Small-Pox. Communicated to Dr Duncan, in a Letter from Mr T. Drummond, Surgeon at Bombay.

SINCE I first engaged in practice, I have been particularly unfortunate in the treatment of confluent small-pox. For several years I had an opportunity of practising in the general hospital of this place; and, both there, and in private, had frequently occasion to treat that disease. Many of the cases which I saw were under the direction of practitioners of experience; and every remedy was employed which the best modern authors recommend. But, by the common management, I have not in this country seen one instance of a recovery. Neither bleeding, vomiting, purging, bark, cordials, acids, nitre, small doses of laudanum, nor blisters, appeared

to

to be of the least service. I was induced, by the great want of success, to try a different practice.

This practice consisted in giving a full dose of laudanum every eight hours, giving freely of cooling antiseptic liquors, and keeping the belly open. I began the laudanum from the first appearance of the eruption, and continued it, increasing the dose every second day throughout the whole progress of the disease.

During the symptomatic fever, I generally joined with it an infusion of bark. Its use was preceded by a laxative.

Since I followed the above practice, I have had under my care four grown-up persons afflicted with confluent small-pox. Of that number three recovered; and the fourth I had not an opportunity of seeing, until several days after the appearance of the eruption.

VII.

The History of a remarkable Affection of the Legs, terminating fatally. Communicated to Dr Duncan, in a Letter from Mr B. Wilmer, Surgeon in Coventry.

IF you should suppose the inclosed case not unworthy of a place in the next volume of your useful Commentaries, you will do me a favour in publishing it there.

Mr Gaunt, surgeon in Merriden, in the county of Warwick, aged fifty-four, about twelve years since had a fever of four months continuance, which left him deprived of memory. Notwithstanding this misfortune, he continued his business, which was fatiguing, and enjoyed an uninterrupted state of good health, till the Spring of the year 1787, when his appetite for food was become so voracious, and he ate and drank to such a degree, that
his

his friends were apprehensive that some disagreeable consequences would ensue, and advised him, but in vain, to lose blood, to prevent a fit of apoplexy ; of which, from a constant sleepiness that attended him, they were particularly fearful.

On the 23^d of *August*, in the morning, he complained of a great coldness of his feet ; walked about to visit his patients ; and in the evening his legs were bathed in warm milk and water. He passed the night with inquietude ; slept little, although he took seven grains of soap-pill at bed-time ; and at times was slightly delirious.

On the succeeding day he was sleepy, kept his bed, the coldness of his legs continuing ; and no means that were tried produced any warmth in them.

At this time, the skin was not cold to the touch of the person who examined them, and he had then neither pain nor numbness in the parts. He now took, every six hours, half a dram of bark, with twenty grains of snake-root.

Two days from the time he first complained of the coldness, he lost the sensation of feeling
ing

ing in both legs ; but the skin was not in the least discoloured ; and he could move his legs and feet in all directions.

Blisters were now applied to the inside of each leg : They occasioned a discharge, without exciting pain.

On the 2d of *September*, his brother, a surgeon of Birmingham, was consulted. He ordered the bark to be continued, with the addition of confect. cardiaca, and the common fomentation to be applied to his legs. A cataplasm also of oatmeal and beer grounds was directed.

September 8th. I was desired to visit him. Both his legs at this time were dead, and cold as marble. At the parts where the blisters had been applied, and the epidermis removed, the rete mucosum had assumed a chocolate colour ; but, in other respects, the skin of the limbs was not discoloured, but had exactly the same pallid appearance as those of a man who had been dead three or four days.

I applied the point of a knife to the skin in various parts, without his being sensible of it. About an inch above each knee he felt the knife ; and the skin was there warm. These
circumstances

circumstances marked the extent of the mortification, for the eye could not perceive where it terminated. He could move both his legs from the bed with ease. His pulse was rather quicker than usual, but without hardness or intermission. His urine and stools, in quantity and quality, were natural. Upon enquiring into the state of his appetite, he informed me, that he had, on that day, dined on cold roasted beef and cucumber.

September 10th. I visited him again. He complained then of some pain about his knees. Applying my hand to one of them, the skin there was warmer than usual; and, for the extent of some inches down each leg, the integuments had the appearance of returning life. Below the calf of each leg, the skin was becoming green; and, nearer the feet, had assumed a complexion of various shades, from a light green to a faint yellow. His pulse now intermitted, about one stroke in ten. His tongue was furred; and he had been, at intervals during the night, delirious. On the outside of the left thigh, the integuments shewed a disposition to gangrene, and were discoloured for a considerable extent. He answered all the que-

sions that were asked him rationally ; seemed perfectly sensible of his dangerous situation, and begged I would publish his case.

12th. The gangrene of the left thigh had increased much, and covered more than half the surface of the vastus externus muscle. He was weaker and worse in every respect.

14th. The disease had spread rapidly. The gangrenous disposition had increased in the left thigh, and appeared in the right. He was very low, and delirious ; and, at ten o'clock at night, he died.

I shall forbear to relate to you the various remedies, internal and external, which I recommended in this extraordinary case ; because, as they were ineffectual, it would be employing your time to no useful purpose.

VIII.

History of a Case of obstinate Cough, returning at intervals, removed by the use of the Cuprum Ammoniacum. By Mr Benjamin Bell, Surgeon at Wigton in Cumberland.

AD. aged 21 years, applied to me in December 1784, for a violent cough. She is above middle stature, and apparently robust. Her menses had flowed at regular periods, but had been scanty for two years past, which was the beginning of her indisposition. She says she was seized suddenly, after getting wet at the time of menstruation, with a most severe fit of coughing in the evening, which continued till noon the day following, without any remission, so as to alarm both her master and mistress exceedingly. They immediately called in the family apothecary; and he administered different medicines, without any apparent advantage whatever.

The paroxysm continued violent, like one in the whooping-cough, for near fourteen hours; after which she found herself exceedingly debilitated, with some remains of cough and dyspnœa at times. But this did not hinder her from doing her duty as a servant, for some months after.

She was then seized with another fit of coughing, as severe as before, and of the same duration. As the apothecary employed before, did not give her any relief, they employed another with as little success; for the medicines administered neither shortened the paroxysm, nor prevented its return.

From repeated attacks of this kind, she was obliged to leave her service, and to go home to her father's, when she applied to me.

This was about two years from her first attack. She then menstruated pretty regularly; but still in less quantity than when in health. Her appetite was only middling. She rested tolerably in the nights, when free of dyspnœa. She had thirst. Her tongue was clean, and belly regular; but she was not quite so corpulent as before the attack. Her pulse was quick; and she was sensible of her being more feeble than when in perfect health.

I looked

I looked upon her complaints to proceed from a great degree of mobility of the nervous system, which led me to suppose, the remedies best suited to remove them, were those that were most effectual in removing relaxation of the nervous system, such as tonics in general. I had, lately before, had great opportunities in seeing the good effects of copper as a general tonic, which led me to the use of cuprum ammoniacum. This I administered at first in small doses, increasing the dose as carefully as I could, to produce no sickness, or as little as possible. She persevered in this manner for a few weeks with great advantage; all her former complaints immediately went off; and she has since enjoyed as good health as before her attack.

In 1786, I was called to her in labour, when she was delivered of a fine healthy boy. She had been then about twelve months married, and never had any return of her former complaints.

IX.

History of two Cases of Compound Fractures, demonstrating the benefit to be derived from the exclusion of Air. By Mr Andrew Wilkison, Surgeon in Dundee, and Member of the Royal Medical Society of Edinburgh.

AS the exclusion of air, in the treatment of many cases of wounds, proves a very important circumstance in the cure; I hope, that the communication of the two following cases of compound fracture, which serve to illustrate that doctrine, will not be unacceptable.

On the 1st of May 1787, I was called to see Robert Gibson, aged 41, a labourer, of a robust constitution; florid, and full of blood, who had fallen from a stone-quarry, where he was at work, to the ground beneath, at the distance of forty feet. I found him, immediately after
the

the fall, lying with his left leg broken in two different places. The upper end of the tibia was protruded forth through the skin and cellular substance, about the middle of the bone; and three inches, directly under the external opening, I discovered a transverse fracture of both tibia and fibula, though not connected with the wound in the corresponding teguments. The fractured ends of the tibia seemed to be almost separated, and split into several pieces, as appeared from the crackling and grating noise that were evident on the part's being handled, or on the slightest pressure. A branch of the anterior tibial artery had probably been laid open, as the blood sprang from the wound with a considerable degree of violence, and a profuse hæmorrhage had already taken place before I saw him.

On consulting with my brother Dr Willison about this case, we agreed to give the poor man all the chance in our power to save his leg from amputation; although, indeed, we both had but small hopes from the experiment.

The hæmorrhage was soon restrained by the application of the tourniquet, and the

protruded portion of the bone replaced, which was effected without the necessity of enlarging the opening through which it was pushed, owing chiefly to the protrusion not being sharp-pointed, and of inconsiderable length.

Having accomplished the reduction of the fracture, and laid the limb in a state of moderate flexion upon its outside, a pledgit of soft dry lint was applied lightly over the wound. The leg itself was surrounded with a twelve-tailed bandage; and the whole firmly secured by two *stay-splints* of a proper size.

We attributed much of the cure, in this case, to the use of these splints, some pairs of which had fortunately been sent us from London, previous to this accident. These *fracture stay-splints* are constantly employed in St Thomas's and Guy's Hospitals; and I here earnestly beg leave to recommend their use to the practitioners in this country. They are much superior to the pasteboard ones, or those made of wood, tin, or any other material yet discovered, as they possess not only a greater degree of firmness longitudinally, but likewise a sufficient pliancy, transversely, for assuming the shape of the part included.

An anodyne was given at bed-time. Next morning, twelve ounces of blood were taken from the arm; and a rigid observance of the antiphlogistic regimen enjoined, for the first ten days.

On the 22^d of *May*, exactly that day three weeks from the accident, we judged it necessary, for the *first time*, to unloose the bandages, and examine into the state of the wound. On inspection, we had the satisfaction to find, that though a considerable discharge of well-digested matter had taken place, the external opening appeared perfectly closed, the rectitude of figure in the bone was preserved, and the posture of the limb itself the same as when the reduction was made.

The pledgit of dry lint, together with the twelve-tailed bandage, were instantly renewed; the whole properly secured with the stay-splints, and the leg deposited on the pillow in the very position in which the fracture was first reduced.

A more liberal use of wine, plenty of easily digested nutriment, and the Peruvian bark conjoined with the vitriolic acid, were now prescribed.

After

After other three weeks from the above dressing had elapsed, the bandages were again removed ; and finding the bones firmly knitted together, we laid them entirely aside, and in their room applied a large saponaceous plaster. The patient was advised to keep his bed a fortnight longer to complete the cure, which with some reluctance he complied with. After this, he took to crutches for a few days : and in the space of about ten weeks from the accident he was able to perform his usual work, without lameness, crookedness, shortness, or any deformity whatever in his limb.

2.

On Wednesday, 29th April last, I was desired to attend, along with Mr Rait, surgeon, John Watt, aged 19, a sailor, of a vigorous habit of body, who had fallen from a considerable height of the rigging of a ship, and had pitched upon the deck. On examination, we found that he had received a compound fracture of his left leg, and had lost a pretty large quantity of blood from the wound.

Both

Both the bones of the leg were broken, somewhat obliquely ; and the end of the tibia was thrust through a wound of the skin and teguments, about a hand-breadth above the ankle.

After having reduced the fracture, without having had occasion to enlarge the opening, and placed the limb on its outside, with the knee moderately bent, much the same mode of dressing was adopted as in the preceding case ; only, pasteboard, instead of the stay-splints, were used, the latter unluckily not being at hand.

An anodyne draught, with sixty drops of laudanum, was given at bed-time, and a strong solution of lead applied over the foot and dressings. The anodyne was continued every night, and the solution used thrice a day, for the first fortnight, after which they were both omitted. During all that time he kept perfectly free from fever, his pulse being seldom above the natural standard. He had no stool till the 12th of May, which we considered as a favourable circumstance, since by that means the limb was kept longer in that state of quietude so absolutely necessary to the completion of a perfect cure. We remarked, that, without

without the assistance of a laxative, a copious evacuation supervened, the day after the anodyne had been omitted. Encouraged by the success of the former case, and by the age and habit of body of our patient, we resolved to give the doctrine of the exclusion of air from wounds the fairest trial in the present instance. Accordingly, on Thursday the 4th of June last, precisely five weeks and one day from the accident, we, *for the first time*, unloosed the bandage, and to our infinite satisfaction found, that not only a very complete reunion of the bones had taken place, but that the wound of the skin, and corresponding teguments, was healed up by *the first intention*, and a cicatrix formed on the part.

The only thing to be regreted in this case, was the want of the stay-splints. The lad being young and giddy, was of course very fretful and unmanageable, so that his limb could not be so steadily retained in one posture by the pasteboard splints: by this means the foot was turned a very little outwards; which, considering the circumstances of the case, cannot be regarded but as a matter of trivial importance

X.

*Histories of Cases of Abscesses in the Liver ;
with Observations on the effects of Opening
them. By Dr James Clark of Dominica,
Fellow of the Royal College of Physicians
of Edinburgh.*

THE following cases are published with a view of encouraging young practitioners of physic and surgery, in warm climates, to open abscesses in the liver, when they point outwardly. They are all that have fallen under my care ; or at least, all whose consent I could obtain to have the operation performed on them. And although that operation has not been attended with so much success as could have been wished for ; yet the preservation of two lives out of three, of those who otherwise must have unavoidably fallen victims to the disease, is an object worthy the attention of every surgeon : and I presume it will appear

appear probable, that the failure of success in these few (except in the first and fourth cases), was entirely owing to the operation having been too long delayed. Where there is a single abscess, and that is opened early, or as soon as a fluctuation of pus can be discovered, even if the patient be considerably emaciated, there is the greatest reason to expect his recovery. The absolute necessity of such a measure, and the great probability of its success, ought to be strongly urged to those patients who may be unwilling to submit to it.

The facts are related as they occurred; and the observations on hepatitis which follow the cases, are the result of ten years practice in an island where that disease was extremely prevalent.

CASE I.

On the 2d November 1780, Mr A———
C———, a carpenter, aged 32 years, shewed me a swelling in his right side, a little below the short ribs, about four inches from the
cartilago

cartilago ensiformis, in which I could plainly feel a fluctuation of pus.

I acquainted him, that the only chance left for his recovery, was to allow an opening to be made into the tumour to discharge the matter. He consented to have it done next day; and as this operation, as far as I could learn, had never been performed in the island before, owing, most probably, to the horror which the idea of being cut into occasions, I requested Dr Robert, an old practitioner, to be present.

I made an incision with a scalpel, about three inches long, in the direction in which the abscess pointed, cutting very cautiously through the peritonæum; till, finding it adhered closely to the liver, I penetrated the tumour, which discharged about a quart of pus tinged with bile. Two small arteries bled a little, but there was no occasion to use ligatures.

After cleaning the parts well, pains were taken to keep the lips of the incision asunder with lint, and to give vent to the pus as it collected. Next day, and the day following, the abscess was syringed with warm milk and
water,

water, and dressed evening and morning ; and the pus had a free discharge. Notwithstanding this, the hectic fever still continued ; which gave us reason to suspect another abscess.

We examined his side all round ; and on comparing it with the other, it was evidently much larger ; but it did not point outwardly, which made us conclude the abscess to be on the concave side, and therefore quite out of our reach. He was dressed twice a day, and well supported with nourishment till the 10th November, being the seventh day from the time the first abscess had been opened, when the other burst inwardly ; and he expired soon after.

DISSECTION.

The same evening we opened the body, and found the right lobe of the liver adhering to the peritonæum and diaphragm all round. And upon opening the thorax, for a more accurate inspection, we discovered an abscess in the upper convex part of the lobe, not far
from

from that which had been opened, containing about a quart of pus: and the lower and concave part of the same lobe was in one large abscess, which discharged at least a gallon of bloody purulent matter. This abscess had burst at the back part, and had diffused pus all over the bowels; and it had also penetrated the diaphragm and got into the lungs, as the patient coughed up a considerable quantity of matter before his death.

There was no communication between these three abscesses. The left lobe of the liver was found, as were also the spleen, and the other abdominal viscera, and likewise the lungs, excepting the right lobe, which was a good deal inflamed, and smaller than the other.

R E M A R K.

I have dissected many people who died of abscesses in the liver, but never before found more than one abscess, which generally comprehended the whole substance of the right lobe, leaving only the outside membranes like a shell, not thicker than common leather, with

some protuberances here and there, resembling honeycombs.

The following practical observation will tend to show how quickly the acute hepatitis may terminate in an abscess, when not attended to at the commencement. This patient sent for me the 17th October 1780. He had then been only five days ill, during which time he had taken a dose of salts, and drank tamarind beverage, which had kept him open in his bowels. At this time he had all the symptoms of acute hepatitis, marked in the strongest manner; and being an athletic man, of a sanguine temperament, and accustomed to hard labour, I bled him largely, and began mercurial frictions upon the side affected, immediately; which were repeated every two hours. Six hours after, I took away upwards of a pound of blood more, which was remarkably fizy, and had a very thick buff on the top after cooling, as the blood taken away the first time had.

At night, which was about twelve hours after I had first seen him, nearly the same quantity of blood was taken away, which had the same inflammatory crust on it. A calomel
pill

pill was given, and nitre was put in his barley-water for common drink. Next morning his pulse was soft; and as he complained of being very weak, I could not venture to take away more blood; but the pain of his side not being abated in the least, I ordered a large blister to be applied over it, and the mercurial ointment to be rubbed upon his left side. The quantity was about two drams every four hours. The calomel pill was given twice a day, and nitre in his barley-water, which, with the assistance of glysters, kept him sufficiently open in his bowels.

He continued this course for near six days, about which time he complained of a soreness in his gums and mouth; but no spitting came on, which I considered as a bad sign. The blistered parts being now quite healed, and the pain in his side much abated, he proposed going to the country, for the sake of enjoying cool air, and living upon a milk diet, to which I consented; and I did not see him till a fortnight after, when he sent for me to shew me the swelling in his side, as related before.

He attributed his disorder to cold, which he said he caught the day of the hurricane, which

happened on the 11th of October 1780. He had wrought hard all that day, endeavouring to save his property, and in helping his neighbours, and was in wet clothes all the time. The day following he was attacked with a fever, viz. the 12th October; and the 17th of the same month, a suppuration had most probably taken place, as, after that time, every possible means were employed to bring about a resolution; and by the 10th of November, which was the day that the abscess burst, almost the whole substance of the right lobe of his liver was converted into purulent matter; that is, in the space of 29 days from the beginning of the disease.

It is perhaps necessary to remark also, that this man had enjoyed good health for a long time before he was attacked with this disorder.

C A S E 2.

On the 1st of *June* 1781, I was sent for to see a negro, named Pilot, then the property of Mr D. Campbell. He had complained

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ed for some time of a pain in his right side ; and now a swelling appeared, and a fluctuation of pus could be felt between the third and fourth false ribs, about equal distances from the sternum and spine.

I made an incision into the tumour about three inches long, and discharged at least half a gallon of pus ; and finding part of the lower rib carious, I removed as much of it as possible at that time, and a little every day afterwards as it exfoliated, till all came away. There was no occasion to take up any blood-vessel. The abscess was syringed with warm milk and water twice a day, and the orifice kept open with lint. He was ordered bark and a nourishing diet ; and in two months and a half he was perfectly cured.

A month after the operation, it was found necessary to dilate the orifice ; and, two months after, he was put under a gentle mercurial course.

R E M A R K.

This negro was in the prime of life, about 24 years of age, remarkably stout, and had been al-

ways very healthy, till attacked with a fever, and pain in his side, some time before I saw him. It appeared to have been of the acute kind. I saw this negro, seven years after the operation, in perfect health; and he told me, he had never been sick all that time, nor felt any pain or uneasiness in his side.

C A S E 3.

The 16th June 1781, M—— L——, a carpenter by trade, aged about 28 years, applied to me for advice, for a swelling in his right side, in which a fluctuation of matter could be plainly felt. It pointed a little below the false ribs, and about three inches from the linea alba. He had been long ill, and was so much emaciated by a hectic fever and diarrhoea, that I had little hopes of success from the operation. He solicited me earnestly to open it, being sensible that it was the only chance he had for life; and as there was no
time

time to be lost, fearing it might burst inwardly before next morning, I sent for instruments, and made an incision into the tumour, immediately in the direction in which it pointed, and discharged upwards of two quarts of foetid pus. The abscess was four inches deep. A great part of the omentum protruded while the purulent matter was coming away; and, finding it could not be reduced, I cut it off. Next morning, on removing the dressings, I could not find the aperture made into the liver, which did not adhere to the peritonæum as usual, and therefore had shifted its place in the night, owing to the restlessness of the patient. After making some fruitless attempts to get the orifice in the liver to correspond with that in the abdomen, I was obliged to make another incision into the liver, more than an inch deep, before I reached the abscess, which discharged about a pint of bloody pus. He was dressed as usual, and well supported with good nourishment and wine, and had a strong decoction of bark, with the extract of catechu given to him frequently; and the discharge being very foetid, the abscess was sy-

ringed twice a day, with a strong infusion of bark made warm.

Six days after, I found that the liver adhered to the peritonæum, all round the orifice; that he had very little hectic fever, and that the discharge began to look well. He continued his medicines, and was dressed in the same manner till the 26th June, when the hectic fever and diarrhœa had entirely left him. The abscess was then syringed with warm milk and water, and all medicines discontinued. Two months after, the abscess being almost filled up, and his strength restored, I ordered him two grains of calomel in a pill, every evening, and two drams of mercurial ointment to be rubbed in all round the orifice every time he was dressed, there being a considerable degree of hardness to be felt in the liver at this place. He continued this course for six days; at which time, a gentle spitting coming on, the hardness of his liver disappeared soon after; and the abscess was perfectly healed up in three months from the day it was opened.

R E M A R K.

This man was not of a sanguine temperament, nor robust. He had been accustomed to drink spiritous liquors to excess, and to lead an irregular life. Seven years after the operation, I saw him in good health; and, during that time, he had scarcely been indisposed, nor had he felt any pain or uneasiness in his side. This was the more surprising, as he wrought hard at his trade, was much exposed to the excessive heat of the sun, and had fallen into his former habit of dram-drinking.

C A S E 4.

October 28th 1781. A negro, named Fig, aged about 20 years, had been some time ill of a fever, and pain of his right side; for which he had been bled frequently, had blisters applied to the part affected, and took a variety of medicines. At last, a swelling appeared

peared between the third and fourth false ribs, with evident signs of a fluctuation of matter. I made an incision between these ribs, where the abscess pointed best, which was nearer to the sternum than to the spine ; and more than a quart of pus was discharged. The integuments were cedematous all round, which made it difficult to mark the place for incision ; on which account the intercostal artery was divided, which was however easily taken up. This patient took bark for some time, and was dressed in the usual manner, and continued to recover, till the 10th January 1782, when the abscess was almost healed, and he had recovered his strength, and was in tolerable health. At this time, a putrid dysentery raged among the French troops quartered in town, which was communicated to many of the negroes, and occasioned great mortality among them. Fig was unfortunately seized with this disease, which carried him off in a week after.

DISSECTION.

I found his lungs sound, although the right lobe seemed to be much less than the left. The diaphragm adhered closely to the pleura, as high up as the fifth false rib; and the incision had been made through them into the liver. The abscess was nearly healed; and I had no doubt of his recovery, had it not been for this accidental disease. The left lobe of the liver was in a sound state.

This case seemed to have been of the acute kind, the progress of the disease having been very rapid.

CASE 5.

The 16th April 1782, Mr G—— M——, planter, aged about 30 years, consulted me for a swelling in his right side. He had been complaining for a long time of a bilious purging, intermittent fever, and pain in his side and shoulder,

shoulder, and had used some mercurial medicines in the country; but a suppuration had probably taken place previous to his application for any medical aid. He had a constant hectic fever, was bloated in the face, and his legs were much swelled; and he was so weak, that he fainted frequently on his attempting to walk. He continued so long in a fainting fit, the evening I first saw him, and had such a chillness after it, that I thought the abscess had burst: but finding him better next morning, and very anxious to have the tumour opened, I complied with his request, although reluctantly, having no hopes of success.

I made the incision between the second and third false ribs, nearly half way between the sternum and the spine, where it pointed, and discharged upwards of half a gallon of pus. This abscess was so very large, that a common probe scarcely reached the bottom of it; and the pus was extremely foetid and bloody. It was syringed with a strong infusion of bark twice a day, for the first week; after which, warm milk and water was used, and the incision kept open. He took a glass of the strong decoction

decoction of bark, with the extract of catechu frequently, for a week; and was well supported with nourishment and wine.

In six weeks he had recovered his strength, but the abscess was not near filled up; and the orifice being almost closed, it was necessary to dilate it, which was done with a directory and crooked bistory. Soon after this, a course of mercurial frictions was begun on the right hypochondrium, and continued till a gentle salivation was brought on; after which, the abscess filled up very rapidly, and was perfectly healed in twelve weeks from the time it was opened.

R E M A R K.

I knew this patient for five years after the operation, during which time he had never been sick, although he was much exposed to the violent heat of the sun, and to get wet in the rainy season, and had also taken to his old habit of drinking strong grog, with which he was frequently intoxicated. After this period he went to Martinico, and I heard no more of him.

C A S E

CASE 6.

4th November 1782. A negro, named Symon, the property of Mons. Jacquin, planter, aged about 25, was brought to me. He had been long ill, and was shewn to me a month before for the same complaint; at that time I advised the opening of an abscess in the right lobe of his liver, which pointed outwardly, between the third and fourth false ribs. But his master indulged him to go to the country, to be treated by one of his own countrymen (famous among the negroes for curing disorders of a doubtful nature, and for removing witchcraft, in which they believe), called there an Obiah man.

When he returned to town, the abscess was increased to its utmost extent, and I expected it would burst every moment. He was besides by this time so much exhausted with a violent hectic fever, and constant purging, that I despaired of success, and would not have opened it, had not the negro,

gro, as well as his master, solicited me very earnestly to do it. This arose from their hearing of my late success; for it was for some time after the first died, before I could obtain the consent of any more. Many died of the abscess bursting, rather than consent to it.

The incision was made upwards of three inches long; and, as far as I could guess, there were at least three quarts of very foetid pus discharged. The abscess seemed to comprehend the whole substance of the right lobe. The lower rib, where it pointed, was also carious. This negro died three weeks after the operation, being quite emaciated: and on dissection it was found, that the whole substance of the lobe had been consumed before it was opened, leaving only the external membranes, in form of a bag or sac. The diaphragm adhered to the pleura, as high up as the upper part of the abscess. The left lobe was found.

REMARK.

If this abscess had been opened when it was first proposed, there is, I think, little doubt that this patient would have recovered, as he had a good constitution, and was remarkably stout. The hepatitis preceding the abscess, was probably of the acute kind. He had been treated by a French surgeon, viz. bled and purged frequently: but no mercury had been administered to him in any shape.

CASE 7.

December 1783. A negro, named Senegal, the property of J. W. Esq; had an abscess in the right lobe of his liver, pointing a little below the false ribs, about two inches from the linea alba. The incision was made as usual, and at least a pint of pus discharged. The abscess extended the length of a common probe towards the cartilago ensiformis. It was

was dressed twice a day; and bark and wine were given for some time. In two months, the abscess was quite filled up, and entirely healed.

REMARK.

This negro was much addicted to drinking spirits; and the imposthume formed insensibly. As he was old and weakly, I attributed the success of the operation to its having been performed early.

CASE 8.

July 1784. A negro woman, named Present, belonging to G. W. Esq; aged about 25 years, had an abscess in her liver, pointing below the false ribs of her right side, about two inches from the linea alba, and in a direction towards the cartilago ensiformis. It was opened in the usual manner, and about a quart of pus discharged from it. Upon examining all

round with my finger, I discovered a small opening into the left lobe, through the middle ligament, which I dilated very cautiously with a scalpel, and found it to be another abscess, communicating with the former by this small opening, and from which was discharged about a pint of pus. This abscess was syringed and dressed in the usual way for two months, when it was entirely filled up and healed.

REMARK.

This is the only case of a female with an abscess in the liver that fell under my care; and also the only instance of the abscess extending into the left lobe.—This woman had been long complaining, and was addicted to drinking of spirits: but the hepatitis came on rather insensibly, when she was with child, by slight pains in her right side, and about the pit of her stomach, attended with a purging, for which she had been bled frequently, and had taken some doses of rhubarb. After delivery, a fluctuation of pus became quite evident, it being rather doubtful before. She nursed her
her

her own child, and it did well. She remained in good health for four years after, during which time she had more children.

CASE 9.

July 1785. A negro belonging to Mont. P— la R——, planter, aged about 19, had an abscess in his liver, pointing below the false ribs of his right side, rather towards the back part, nearly at equal distances from the linea alba and the spine. The incision was made in the direction in which the tumour pointed: about a quart of pus was discharged; and it was filled up and entirely healed in about three months.

REMARK.

From what I could learn, the disorder came on insensibly: but he had the yaws some time before, for which he had been improperly

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treated;

treated; which left him in a bad habit of body, and was probably the cause of the abscess not healing sooner.

CASE IO.

July 1785. A negro, aged about 25 years, belonging to a Frenchman in town, was sent to me for a swelling in his right side, which I discovered to be an abscess in his liver, pointing below the false ribs, about three inches from the linea alba. It was opened next day, and discharged at least a quart of pus. It was dressed in the common way; and was filled up and entirely healed in six weeks. This negro was very robust. The disease seemed to have been of the acute kind.

CASE II.

September 1786. Mr M——, planter, aged 48 years, applied to me for advice, having a swelling

swelling in his right side, not far from the pit of his stomach, inclining towards the short ribs. He had taken some purgatives before I saw him. The tumour was very hard all round, but not very painful to the touch. I suspected that a suppuration had already begun; but for fear of being mistaken, a course of mercurial frictions was commenced immediately, and persisted in every four hours, till a spitting came on, which happened on the fourth day.

Some days after, the tumour became softer, and shewed more evident signs of a fluctuation of pus. An emollient poultice was then applied over the part; and he was advised to come to town for a few days, to have the abscess opened, to which he seemed very averse, and delayed coming for three weeks. He was now much emaciated by a hectic fever and diarrhœa; and the tumour was greatly increased in size, which, when opened, discharged an incredible quantity of very foetid purulent matter. On examining the abscess with my finger, and a long probe, I found the whole substance of the lobe apparently consumed; and therefore despaired of his recovery.

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covery. The great discharge of pus wasted him gradually till the sixth day after the abscess was opened ; when he died, being quite exhausted.

R E M A R K.

I had not an opportunity of opening the body after death ; but I am convinced, from the distance to which the probe entered the abscess in all directions, that the substance of the lobe was quite consumed. Had this patient consented to my opening the tumour a few weeks sooner, he in all probability would have recovered, although his constitution had been much injured by his long residence in a warm climate. He informed me, that the disorder came on slowly, attended with flying pains about his side, and frequent purgings. He could assign no cause for it ; only, that he was obliged to drink rum which was not always of a good quality.

C A S E

CASE 12.

October 2d 1787. I was sent for to see Mr H——, a carpenter, aged about 30, who had been labouring under an intermittent fever and diarrhoea for some time, attended with a pain, and (of late) a swelling in his right side.

On examination, I found an abscess pointing below the false ribs, about two inches from the linea alba, and extending towards the cartilago ensiformis, which I opened next morning, and about three English pints of foetid pus were discharged from it. A small artery was divided in cutting through the integuments, which was taken up. A sinus extended, the whole length of a common probe, up in a direction towards the cartilago ensiformis.

He was dressed twice a day in the usual way; had a nourishing diet and wine allowed him, and took a glass of the strong decoction of bark, with Terra Japonica, frequently, for the first ten days; after which, he began to

recover his strength, and left off taking medicines. The abscess was filled up, and perfectly healed in two months and a half.

REMARK.

This patient was so much emaciated before the abscess was opened, that he could scarcely stand; and four months after, he was in perfect health, and able to work at his trade. The disease came on in the form of a remittent, and afterwards intermittent fever, attended with a bilious flux and tenesmus. I did not see him till the abscess was formed.



CASE 13.

February 14th 1788. Mr H——, planter, aged about 30, had been long complaining of a pain in his right side, for which a mercurial course had been pursued without effect, a supuration having probably taken place before
that

that method of treatment was recommended to him. When I first saw him, a fluctuation of pus could be plainly felt between the second and third false ribs of the right side. I opened the tumour, and about a pint of pus was discharged from it. He was of a timorous disposition, and would not allow the abscess to be cleaned and dressed as it ought to have been; notwithstanding which, it was almost healed up in six weeks time, when he went to the country. But, being addicted to drinking of spirits, and to lead an irregular life, he was seized with a fever about three months after the operation; at which time, as I was informed, the orifice of the abscess inflamed and opened a little, and discharged some foetid matter, and was in a gangrenous state before he died, which was in a few days after he was attacked. Being at a considerable distance in the country, I could not go to examine his body: but there can be little doubt that his death was owing to this fever, and not occasioned by the abscess. It was the smallest that I had ever opened; and, being otherwise in pretty good health, he had every chance for a recovery.

G E N E-

GENERAL REMARKS.

Several white people under my care died of abscesses that did not point outwardly ; and many died of them when they pointed well, whose lives might have been saved, had they consented to the operation.

I never knew any person recover, after the abscess had burst.

On dissection it was found, that many negroes had died of abscesses in the liver, whose death was attributed by their masters to other diseases.

I never knew an instance of an inflammation of the liver ending in gangrene : but a very extraordinary case, in which it ended in schirrus, fell under my care.

QUERY.

When a patient is afflicted with phthisis pulmonalis, attended with a fixed pain in his side ; Might we not venture to make an incision

sion between the ribs into the part affected, and thereby endeavour to discharge the purulent matter externally, and heal the ulcer? —In such cases, there is generally an adhesion of the lobe of the lungs to the pleura; at least it has always occurred to me on dissection.

General Observations on the Symptoms and Treatment of Hepatitis, &c.

The acute hepatitis comes on like a pleurisy, only the pain is seated much lower, and is not near so pungent, but rather attended with a sense of weight; and, as far as I have observed, is always in the right side. It generally returns by fits, and is greatly increased upon pressing the liver all round the false ribs of that side, after laying the patient on his back, with his head low. The pulse is soft, and the feverish heat not near so violent as in the pleurisy. There is frequently a pain about the clavicle or top of the shoulder, which returns, like spasmodic affections, at nearly equal
stated

stated periods : but although this symptom is truly characteristic of the disease, when it occurs, it is by no means constant. There is usually a short dry cough, without expectoration. It is rarely attended with hiccup, or vomiting. Bilious, frothy stools, with tenesmus, are a very common symptom. But the most general diagnostic symptom is the inability to sneeze, even when stimulating sternutatories are used to excite it. Strong hard-working people, and those of a sanguine temperament, are most frequently attacked with it.

When a patient has frequent returns of a bilious purging, becomes pale and bloated, and has a dull white colour, or a yellow tinge in his eyes, attended with great uneasiness about the pit of his stomach, an unnatural craving for food at times, and a slow fever, a chronic hepatitis is strongly to be suspected. If obstinate constipation succeeds the purging and tenesmus, and if there be a sense of weight, and a heavy pain in the right hypochondrium on pressing the fingers under the false ribs, when the patient is in a recumbent posture, the disease is still more certain. But if there be also a dryness and hardness of the gums, a pain a-

bout

bout the top of the shoulder, and an inability to sneeze, there can be no doubt of it.

It sometimes begins in the form of a remittent or irregular intermittent fever, attended with violent pains about the pit of the stomach, and a yellow tinge in the eyes; and when two cold stages happen in the course of 24 hours, this disease is much to be apprehended. It most commonly attacks people whose constitutions have been much impaired by the diseases of warm climates, and those who live poorly, and are addicted to drinking spiritous liquors to excess.

CURE.

In the acute kind, bleeding repeatedly, according to the strength of the patient, is never to be omitted. Two pounds of blood, and in some cases four, were taken away in the space of 48 hours. The cool regimen is always to be followed; and a course of mercurial frictions to be begun without delay, and continued till a gentle salivation be brought on. Sometimes a blister was applied to the side, but was never considered as essentially necessary towards the cure.

cure. When a practitioner is called in, on the first attack of the disease, this treatment will generally remove it in a short time; but when the patient has not applied for advice for some days, which is too often the case, it will be necessary to give small doses of calomel two or three times a day, to expedite the action of the mercury on the mouth; as it has been observed, that the formation of pus was very rapid in some acute cases, particularly in Case 1st. And it has been ascertained almost to a certainty, by experience, that if a gentle salivation be brought on before suppuration happens, it will not take place afterwards. The patient ought however to be closely watched, otherwise a violent salivation might be the consequence of throwing in the mercury in this hasty manner, which would injure the constitution. And this method ought never to be pursued, but in cases of the most urgent necessity.

In the chronic kind, immediate recourse was had to mercurial frictions, without using any previous evacuation, or waiting for any preparation whatever; and if the patient had been late in applying for advice, a small dose of calomel, with an opiate, was administered
once

once or twice a day, till it produced the desired effect.

Violent rigors are not always certain signs of pus being actually formed ; for I have frequently succeeded in bringing about a resolution after such symptoms had appeared, by continuing the mercurial course. When the gums remain dry and hard, after a quantity of mercury has been rubbed in, and given internally, there is great reason to suspect that a suppuration has taken place. I have only met with three or four cases, where a salivation was brought on after pus had been formed in the liver. The mouth sometimes smells of the mercury ; but the gums, tongue, and glands, generally remain dry.

In upwards of 100 cases of hepatitis which have fallen under my care, none had the left lobe affected, except Case 8th ; so I may be allowed to conclude, that this happens very rarely : and among all those, I had only three women affected : one was a white woman, who recovered ; the other two were negroes, who had been much addicted to drinking of spirits (*viz.* Case 8th), and one in whom the abscess had
burst

burst inwardly before I saw her. All these patients had passed the age of puberty.

From the year 1779 to 1784, this disease was very common on the leeward side of the island of Dominica, especially in and about the town of Roseau; and during the dry and hot season, viz. from March to August of these years, it raged somewhat in the manner of an epidemic. There was frequently a scarcity of provisions in the Island about that time. Remittent and intermittent fevers prevailed in the Autumn of these years, and a putrid dysentery, which was remarkably fatal. For some years past, it has not appeared in this manner, nor has it been near so frequent as before.

On the windward side of the Island, where it is cooler by 10 degrees of Fahrenheit's thermometer, at an average, than on the leeward side, and where the lower ranks of white people, and the negroes, who are most subject to this disease, have not such easy access to rum; it is never, or very rarely to be met with; at least I can say, that not one case of hepatitis, or an abscess in the liver, occurred to me, during

during an extensive practice for seven years in that part of the Island.

Obstinate intermittent fevers, especially of the quartan type, have been frequently cured by the judicious use of mercury, after every other means had been tried in vain.

Dropfical diseases, depending on obstructions in the liver, are only to be cured by a course of mercury in warm climates, or by a removal to a cold country.

Habitual diarrhœa, and dysentery when not of the putrid kind, and where there is reason to suspect a diseased liver, are to be cured by the same means.

Much good has also been done in the West Indies, by the prudent use of mercury in other diseases besides those of the liver, viz. in obstinate rheumatic affections, and sciatica; and in that most excruciating spasmodic disease, the dry belly-ach, which is commonly removed by it when a spitting is brought on, even before stools are procured. I have known many instances of this; and from thence I have been led to ascribe the action of mercury to an anti-spasmodic power. Do not its effects in the tetanus, the most violent of all spasmodic af-

fections, tend to render this conjecture very probable? I have also observed, that the pulse became weaker, and often less frequent, after the glands were affected by it. From these and some other observations with respect to the efficacy of mercury in other inflammatory diseases, I am much inclined to doubt the opinion entertained by some, that its action depends on a stimulating power.

XI.

History of a Case of Schirrous Liver. By Dr James Clark of Dominica, Fellow of the Royal College of Physicians of Edinburgh.

ON the 7th September 1786, I was called in the night to M—— la F——, the wife of a French planter, aged 44 years. She complained of a very severe pain in her right side, extending from the pit of her stomach along the short ribs, where she had struck herself with some violence against the key of a door, two days before, in walking in the dark. By applying camphorated spirits and warm flannels at the time this accident happened, the pain abated; but it had now returned with redoubled violence. She had very little fever. Her pulse was full, and rather frequent, but not hard. She was bled freely, and took a cooling purgative, which relieved her entirely from pain. It was repeated,

however, the day after, and some mercurial ointment rubbed upon her side frequently, which was not persisted in for any length of time, as she found herself so well that my attendance was no longer thought necessary. She sent for another purgative; and I did not see her till the 10th of November following, nine weeks after I had been first called to her. I could then feel the right lobe of her liver greatly enlarged, and very hard, having glandular protuberances on the convex side. During this time she had had frequent pains in her stomach and side, which she thought were hysterical, as her catamenia had not appeared since this accident, and she had always been very regular in that respect before.

She was brought to a place near town, in order to be better attended, the 14th of November; and a course of mercurial frictions on her side was begun immediately, and pursued for six days without any visible effect. On this account, it was judged necessary to administer a small dose of calomel twice a day, and to continue the frictions.

Some days after, this produced a soreness in her gums and mouth, but did not bring on a
spitting,

spitting, nor lessen the hardness and protuberances in the liver; which was considered as a very unfavourable circumstance. The frictions were however continued; and she was kept open in her bowels by small doses of rhubarb and glysters, till the 16th of December, viz. 32 days after the course had been begun; when she complained of a most excruciating pain near the pit of her stomach, and became very restless and feverish: on which, the frictions were suspended, and an anodyne draught was given. This pain returned at intervals for four days, viz. till the 20th of December; when a purging of something like purulent matter mixed with blood coming on, her pulse began to sink, and her extremities to turn cold; and she expired the next day in the morning.

DISSECTION.

The same evening I went to inspect the body (having obtained the permission of her relations), accompanied by Dr Fillan, who had attended her with me a short time before her death.

We found both lobes of the liver full of scirrhous glands, from the size of a small bird's egg to that of a hen's, especially in the right lobe, all of an oval form. There were eight or ten of the largest sort; but scarcely two of the same size; and the smaller were very numerous: and on the concave side of the right lobe, a very large gland had suppurated. The cavity where it had been, would have held a large turkey's egg, the bottom of which was covered with a glarey viscous matter, mixed with blood, of which there was a considerable quantity floating in the stomach and bowels. These glands were covered with a thick white membrane; and upon being cut into, they were found to contain a pale white substance, resembling a steatom, which was remarkably solid and firm. They were easily disengaged from the liver by the fingers, without the assistance of any instrument. I preserved three of them in rum.

The other abdominal viscera were found; and we did not think it necessary to open the thorax. The body was not emaciated, although she had lived on a spare diet ever since the accidental hurt she had received.

Q U E R Y.

Were all these glandular swellings the consequence of inflammation from the blow that this woman received, in running against the key of a door, three months and a half before her death?—Or had they been gradually forming for some time before that period?—And may not therefore the inflammation, and consequent suppuration of this single schirrous gland on the concave side of the liver (which was apparently the cause of her death), be considered as the only consequence of this contusion?

XII.

The History of the case of a Girl, who lived for eighteen days on a barren Moor, and in a cold Climate, without any other subsistence but water. By Mr John Millar, Surgeon at Stronoway, in the Island of Lewis.

MARGARET M'KENZIE, aged twelve years, left her father's house on the morning of Thursday the 13th of November 1788, in company with some women, with the intention of visiting the west side of the island. The distance to the place to which she intended to go, was fourteen computed miles across a dreary moor. After she had travelled about three miles, she became fatigued, and expressed a desire of returning home. To this the women agreed, as they could not carry her any part of the way, all of them having heavy burthens. One of the women returned with her part of the way, saw her over a small rivulet,

vulet, and pointed out to her a place, from which she would have a view of the town : She then left her to proceed on her journey. The father of the girl, who was to follow these women, came up with them not long after his daughter had parted from them ; and upon being told that she had gone home, he desisted from proceeding, and immediately returned with the view of finding her. He frequently holla'd, and cried aloud as he went along ; but, receiving no answer, he went home, not doubting that he should find her there ; but, to his surprize, he found she had not arrived. He immediately applied to the chief magistrate of the place, requesting him to assemble the people of the town to search for her. This was readily agreed to ; and next morning, upwards of two hundred traversed up and down the moor with dogs for several miles, but without being able to find her. A similar search was repeated for some days, but with no better success. At last, however, on the 31st of November, two boys found her still alive, lying under the shelter of a large stone, close by the brink of a small rivulet. She had no food when she parted from the
company ;

company ; and she declares she tasted nothing but water during the whole time ; and indeed, in a barren moor, at that season, there was nothing she could eat excepting heather. I saw her about two hours after she was found, and she answered every question put to her very distinctly. She was much emaciated. Her pulse was regular, but quick, being about 110 in the minute. She slept some that night ; and the day following, without any medical assistance, she had a discharge by stool and urine. The fœces were very hard, in small pieces, and emitted a very foetid smell. The urine deposited a vast quantity of sediment. At present, January 20th, she is going about in her usual health.

XIII.

Observations on the Influenza, as it appeared at Plymouth in the Summer and Autumn of the year 1788. By Mr Vaughan May, Surgeon to his Majesty's Ordnance at Plymouth. Communicated to Dr Duncan.

IN the month of June 1788, many people were affected with a slight degree of cholera morbus, which was soon relieved by the common method of treatment. This gave place to colds and coughs: and on the 7th of July following, I was applied to for assistance in the influenza, which first made its appearance here, among the navy and army at this port.

In general, those who were under my immediate care were seized with pain in the head and limbs, foreness of the throat, pain in the breast, and a sense of cold over the whole body. To these succeeded cough, a great
discharge

discharge from the nose and eyes, and slight nausea. The feverish heat was considerable, but the pulse little increased. The patients were generally thirsty, though the tongue was always moist. They were commonly costive; but in some few instances, a griping sensation was complained of, attended with diarrhoea.

The rapid progress of this disease was beyond description; but in no instance under my care did it prove fatal; though, from a want of attention on the part of patients to themselves, it was succeeded in two or three cases by a very dangerous fever. It was only in very few instances that bleeding seemed to be indicated; and in none did I observe any relief from this evacuation, though there was an evident appearance of size on the blood.

Warm diluting liquids were advised; and when the cough was very troublesome, anodynes afforded great relief. I wish, however, in a more particular manner, to relate the astonishing effects of emetics in this complaint. As I have not observed these sufficiently strongly insisted upon by any writer, and as they may hereafter be found equally useful, I hope

I hope it will not appear presumption in me to enforce the employment of them. The emetic which I employed, consisted of a grain and a half, or two grains, of emetic tartar, combined with twelve grains of the powder of ipecacuan. This was ordered to be taken in some diluting drink, and to be washed down with three or four pints of an infusion of chamomile flowers. Besides a free discharge of the contents of the stomach, it in general produced a loose stool or two, and a profuse perspiration, which was commonly followed by a return of health, every complaint having vanished as it were by a charm. This was so evident, that the men themselves, immediately on the attack of this affection, used to apply to me for a vomit, as they called it, being confident that it would cure them. And I can with great truth assure you, that among the worst, and indeed often the most threatening appearances, I have, after the above dose, seen every complaint removed in twenty-four hours, insomuch that in forty-eight hours the men have been returned fit for duty.

The influenza nearly completed its range through this place in about a month; for
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on the 9th of August, I had scarcely a patient affected with it.

The above remarks relate chiefly to a detachment of the Royal Regiment of Artillery : and it is curious to observe, that a company of the Royal Military Artificers situated as nearly as possible on the same spot, experienced very little of this complaint. With them it was observed only in a much milder degree ; and with the inhabitants of the town of Plymouth, it was still less severe. I cannot help observing, that in this attack, all the men in the barrack-room at that time, about ten or twelve, where the infection first made its appearance, were regularly seized, one after another, previous to its farther progress ; and that I saw one instance of a man's having it twice.

It should seem, from the first appearance and course of this distemper, that little doubt can remain of its being contagious. Yet so little do we know of the causes of general epidemic diseases, that I think the matter is still involved in great uncertainty. I will however venture to offer some conjectures to your consideration on this subject, which, though they may not carry conviction, will yet, I hope,

hope, be considered as not unworthy of attention.

Previous to the appearance of this epidemic, the months of May and June were remarkably dry and warm. Some part of the month of June, in particular, was very hot, the thermometer in the shade rising to 78. During the space of two months it was only eight or ten days below 60, and never lower than 56. The medium heat was between 65 and 66 degrees. The barometer varied but little, being in general 29.8, never below 29.5, and never higher than 30.2. The wind, a great part of the time, was in the eastern quarter, so that the air was very dry, and the whole face of the country was changed. Vegetation appeared to be quite at a stand, and serious apprehensions were entertained, whether the grafs in the fields would ever recover its verdure.

In this state of evaporation, is it at all unnatural to suppose that the human body should partake? The natural excretions would be increased, and in particular perspiration, to which nature would soon accommodate herself; and the change being brought about
by

by degrees, would occur without any sensible injury. But whenever the contrary change takes place, and rain and cold weather succeed to warm and dry, the alteration being sudden, disease of some kind is likely to be the consequence, and will prevail, according to different constitutions, till nature has adjusted herself.

Why a disease of a peculiar kind should prevail in preference to any other, I do not attempt to explain. But I believe I may venture to say, certain it is, that, on such changes, disease is the natural consequence: and this disease is for the most part of the catarrhal kind. These ideas led me to the practice above-mentioned, conceiving, that if something could be had recourse to as a substitute for the sudden check received from such changes, nature, from the all-wise disposition of Providence, would soon accommodate herself, and restore health and vigour to the constitution. How far I am right in these conjectures, I will not pretend to say. But if the rapid recovery of those persons who were subjected to such treatment will speak in favour of it, I am sure the numbers are great.

In a former part of these observations I mentioned, that a company of Royal Military Artificers and Labourers, situated nearly on the same spot, had experienced very little of this complaint. This, I think, we may in some measure account for. I observed, through the progress of the disease, that the men who were most exposed to the air were soonest attacked; more particularly centinels on duty during the night, when the air was colder and more unpleasant. The Royal Military Artificers at that time had very little of this duty, and consequently were less exposed. This also may probably be the reason why the inhabitants of the town had less of it. The seamen belonging to the guardships in this port were generally affected; and in some of the ships, they had two thirds of the ship's company ill at a time.

Before I conclude these observations, I cannot help recommending to such as are in extensive practice the emetic mentioned above. I have seen peculiar benefit derived from it, in the early stages of continued fevers: and as far as my observations go, these advantages are not to be obtained but by a combina-

tion of the two medicines. The good effects resulting from this emetic, are always in proportion to its activity, and to the evacuations produced. These, as well as vomiting briskly, take place both by stool and by sweating.

XIV.

An Account of good Effects obtained from the use of the Vitriolic Acid in the cure of Obstinate Singultus. By Dr A. Duncan, Physician, Edinburgh.

A GENTLEMAN in the 73d year of his age, who had been long engaged in the practice of medicine with much credit and reputation, was seized with hiccough on the 13th of July 1784. This affection began about an hour after breakfast, without any obvious cause, and at first gave him but little uneasiness. After continuing, however, for upwards of an hour, it became so violent, that he thought it necessary to employ something with the intention of checking it. For this purpose, he used, in succession, spirits, opium, camphor, and musk, as well as some other practices which have been commonly recommended. But none of these had any other

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effect,

effect, than that of producing at the utmost a slight temporary intermission; and, notwithstanding every mode of cure he could think of, it continued to increase in severity through the greatest part of the day; and particularly, from six till ten at night it continued incessant and severe.

In this situation, he requested to have my advice. As most of the practices commonly used in such cases had been already employed without effect; as I had but a short time before been informed, that a practitioner in the North of Scotland had been successful in removing an obstinate singultus, by making his patient drink large quantities of vinegar; and as I knew that this practice had been repeated with success in the Royal Infirmary at Edinburgh, I thought it might not be improper to make a trial in the present case, of some remedy of a similar nature. But I imagined, that a more powerful acid might, with equal advantage, and less inconvenience to the patient, be substituted to the use of vinegar, which in the cases alluded to had been taken to the extent of several ounces at once. I determined, therefore, on having recourse to the
vitriolic

vitriolic acid, which, in a variety of other affections, is every day employed internally with safety and advantage.

I prescribed a mixture, consisting of a dram of the *acidum vitriolicum tenue* of the Edinburgh Pharmacopœia, united with four ounces of mint water; and I directed a table-spoonful of this mixture to be taken every half hour, while the affection continued. But as soon as he took the first table-spoonful, the hiccough almost instantly ceased. In a short time he fell into a quiet sleep, and rested well during the whole course of the night. Next morning he awaked in his usual health: but about ten o'clock in the forenoon, he had a slight return of the hiccough. Upon this he had recourse to a second spoonful of his mixture, which was followed by the same effect as formerly, the inordinate action almost instantly ceasing; and he has not since had any return of that affection.

Although general conclusions cannot with any propriety be drawn from particular and solitary cases, yet I must own, that, from this instance of success, I was inclined to hope, that the vitriolic acid might afford a safe, speedy,

and not unpleasant remedy for a complaint, which, when it occurs as an idiopathic affection, if it be not a dangerous, is at least not unfrequently a troublesome disease: and in some slighter instances which have occurred to me, since I treated the case already related, I have employed the vitriolic acid with success. But I was lately informed by an ingenious friend, a practitioner in the country, that he had employed this remedy without any benefit, in a case of obstinate singultus, which afterwards yielded to the internal use of vitriolic æther. Although, however, it is not to be expected, that the vitriolic acid will be successful in every instance of singultus, yet I am inclined to hope, that in some other obstinate cases it may prove equally beneficial as in that which I have here related.

S E C T. III.

M E D I C A L N E W S.

A VERY ingenious gentleman, Mr John Gahagan, who is at present engaged in the study of medicine at Edinburgh, has made many experiments upon vegetables, with the view of determining whether their irritability be the same with that of the muscular fibre of animals, and what are the laws by which it is regulated. He has also, with great industry, collected the observations and experiments made by others on this subject; from all which he has endeavoured to deduce several interesting and curious conclusions. It is

to be hoped, that he will soon publish his sentiments on this subject at full length. But, in the mean time, it may gratify the curiosity of some of our readers, when we here present them with a short account of a paper which he has read upon this subject, before the Natural History Society of Edinburgh. It is, however, proper to observe, that, since the above paper was written, he has made many other experiments, which tend still farther to corroborate his opinion.

For the laws of the animal œconomy, and for the facts upon which these laws are founded, we are chiefly indebted to the labours of Haller and the Abbé Fontana; the latter of whom, by a series of experiments, in which accuracy and industry are eminently conspicuous, has proved, as he thinks, beyond the possibility of doubt, the existence of a principle in the animal fibre, independent of nervous energy; from which result, upon the application of certain exciting powers, the various actions suited to the support of animal life.

This principle, which, with Haller, the Abbé denominates *irritability*, he proves, with the
same

same degree of certainty, to be susceptible of two changes in the living fibre, viz. increase and diminution, depending upon the undue abstraction or application of stimulant powers.

As the functions of the animal œconomy, to which the nerves seem alone necessary, viz. sensation and voluntary motion, are never present in the vegetable kingdom, the author presumes, that the absence of nerves here can in no degree diminish the analogy which he wishes to establish between these two great divisions of created nature.

For the facts respecting the functions of vegetables, necessary to support the author's conclusions, he acknowledges himself chiefly indebted to the experiments of Hales, Duhamel, Des Fontaines, Bonnet, Ingenhousz, and the ingenious Mr Hunter; from whose discoveries, joined to what the author has been able to observe on the subject, he infers, that there is a principle of action common to both kingdoms, upon which their respective functions depend, and which, he undertakes to prove, is governed in both by the laws which the Abbé Fontana has laid down for the regulation of the irritability of the animal fibre.

By

By the term *irritability*, the author means only to express a fact, without entering at present into a discussion concerning its cause; which fact is this, that certain parts of animals and vegetables are possessed of a property, by which, upon the application of a stimulus, the ends of a straight fibre approach nearer to each other, and the diameter or area of a curved or circular one is diminished.

As the motions of the plants of the genus *Mimosa* are very remarkable, and strongly tend to confirm the author's opinion, he begins by noticing a few of them; and first, those of the *Mimosa pudica*. This plant has pennate leaves, placed on long petioles. Upon the application of a smart blow, all the folioles collapse. If the blow be slighter, fewer of them contract; and a gentle touch scarcely produces any contraction at all. The motion of these leaves is by no means produced by the mechanical action of impulse, as the very same contractions may be excited by the application of other stimuli, such as the fumes of volatile alkali, the electric spark, musk, and opium; besides, it is easier to break these leaves, than immediately to bring them back to the situation

tion they had before the stimulus was applied. The motions of the *Averrhoa carambola*, of the *Oxalis sensitiva*, and of the *Onoclea sensibilis*, are to be referred strictly to the same head. It may be here observed, that immersion in water does not prevent the contraction and relaxation of the sensitive plant, but rather increases it, though it becomes somewhat less sensible in this state to the action of other stimuli. It is perfectly analogous to what we observe in animals, that the power of contraction is increased by the application of stimuli, if it be not carried so far as to produce weakness: This is a circumstance which seems difficult of explanation, but which is not the less to be admitted as a fact. When the parts of an animal are inflamed, their sensibility and power of contraction are highly increased; and, in the plants above-mentioned, according to the observations of Duhamel, their contraction is always greater, in proportion to the heat and dryness of the weather, within a certain range. Electricity, which, by innumerable experiments, is found to be a powerful exciting cause of contraction in vegetables, as well as in animals, does also, when properly applied, increase

increase the predisposition, similar to other stimuli.

The leaves of the *Dionæa muscipula* are each composed of two lobes, joined by an articulation. The internal surface of each lobe is furnished with three spines, and with a number of glands, secreting a sweet liquor. When any unfortunate insect, allured by the honeyed bait, settles on the glands, a sudden and forcible contraction is instantly produced; the lobes are applied close to each other, and the glutton is impaled on the spines. It is not only by the settling of a fly that the contraction of the lobes is excited; their irritability is called into action by other mechanical stimuli, as Mr Bonnet has observed.

While describing the motions of the footstalks of plants, it seems proper to notice those of the *Hedysarum gyrans* *. This plant is furnished with ternate leaves, of which two folioles are small, the middle large: Each ascends by a slow but uniform motion, till it has nearly acquired an erect posture, then falls down suddenly; and, after a short interval, again begins

* Broussonet Memoires de l'Academie des Sciences.

gins to ascend. The folioles sometimes perform a rotatory motion, having their upper surface always exposed to the sun. The alternate ascent and descent continue, while the plant is immersed in water; and, even during the night, they are much favoured by warm dry air, though the too powerful influence of the meridian sun, by exhausting its irritability, sometimes suspends these motions of the plant. If prevented mechanically, they are renewed with increased celerity and vigour, on removing the obstructing cause.

The sexual parts of plants exhibit still stronger marks of irritability. The *Berberis vulgaris* has six stamina. If a needle, or any other irritating cause be applied to that side of the filament which is next the pistillum, a sudden contraction takes place, and the anthera is forcibly applied to the stigma. After some time, the stamen returns to its former position, and a contraction may again be excited, though less easily, by the application of a stimulus*.

The

* Des Fontaines Journal de Physique, December 1787.

The five filaments of the *Centaurea calcitrapoides* are at first in form of an arch ; but when irritated by the finger or a needle, they are extended into right lines, and applied to the sides of the stile. Motions of the same kind with those already described, are observable in several other plants of the class syngenesia, particularly in the *Heliotropium* and *Calendula*, and also in the plants of the genera *Cactus*, *Morus*, *Parietaria*, and *Cistus*.

Besides the motions of the stamina excited by the application of foreign stimuli, others more natural are performed by them, which, with Des Fontaines, Mr Gahagan refers to the stimulant power of the female organs. In these plants, at the time of the maturity of the pollen, the stamina apply themselves to the pistillum ; and after having performed the work of fecundation, return from whence they came, exhausted of their irritability, by which they soon wither and decay. In some plants, all the stamina are applied together to the pistillum, as in the *Nicotiana*, *Garidella*, and a few others. In the greater number, however, the stamina move towards the pistillum successively,

ſucceſſively, either by one, two, or three at a time. Among the plants in which the ingenious Monſ. Des Fontaines diſcovered theſe proofs of irritability in the male organs, may be particularly mentioned the *Lilium ſuperbum*, the *Pancratium illyricum*, the *Fritillaria perſica*, the *Zygophyllum fabago*, with many others too numerous here to be named.

With reſpect to the female organs, though their motions are leſs apparent than thoſe of the male, as might naturally be expected from the innate modeſty of the ſex, yet Des Fontaines has noticed them in ſeveral plants, viz. in the *Paſſiflora minima*, the *Nigella fativa*, the *Oenothera repanda*, the *Epilobium anguſtifolium*, the *Hibiscus malvaviſcus*, the *Sida americana*, and above all in the *Collinſonia canadensis*. The laſcivious motions of one plant, in particular, viz. the *Gratiola*, deſerve to be noticed. Linnæus thus deſcribes it: *Gratiola æſtro venereo agitata piſtillum ſtigmati hiat, rapacis inſtar draconis, nil niſi maſculinum pulverem affectans, at ſatiata, riſtum claudit*. And from his obſervations he is led to lay it down as a rule, that whenever the ſtamina are equal in length to the piſtillum, then the
ſtamina

stamina move towards it; and on the contrary, whenever the pistillum is longer than the stamina, the former is the moving part. The stigmata are also irritable by foreign stimuli; of which the *Martynia annua* affords a remarkable example. Its stigma is bifid, and its two segments are generally a little open; but on the application of the slightest touch, the inferior one suddenly attaches itself to the superior, so as to give the appearance of a simple stigma. The same is true of the *Bignonia catalpa*, the *Lobelia siphilitica*, and *cardinalis*.

The celebrated Gmelin has discovered, that the stamina are not only irritable while forming a part of the flower, but also when separated from it, and even when cut into pieces. This observation is confirmed by Cevolo, who remarked, that when a stamen, separated from the flower, was irritated by a needle, it twisted and contorted itself like a little worm.

The author observes, it may be expected that he should here take notice of the phenomena of climbing plants. Some of these are indeed truly wonderful, and have hitherto baffled any rational attempt that has been made

made to account for them. It is reported, that the *Humulus*, or common hop, when its pole becomes rotten, will gradually unwind itself, and creep along the ground, until it finds a firm support.

The *Glycene apios*, a plant of the West Indian islands, is said to grow towards a pole presented to it, and vary its motion according as the fulcrum is changed. The *Bryony* shoots forth spiral tendrils till it completes three circles; then alters its course, and shoots as many more; and so alternately, in opposite directions, till it meets a solid body.

Though some might be inclined to infer, from the above circumstances, the presence of instinct and will in these plants, yet such a conclusion, Mr Gahagan thinks, would be a very rash one, as the only legitimate inference seems to be, that these plants are actuated by other stimuli than those with which we are already acquainted.

Having, by the facts already stated, endeavoured to prove the existence of irritability in plants, he next attempts to show, that it is capable of the same changes of increase and diminution in the vegetable, as in the animal;

for which purpose, he proceeds to mention a few facts, from which the proper conclusions will, he thinks, place this point upon a footing equally clear and unquestionable. And, first, That the action of a powerful stimulus diminishes and destroys the irritability of the vegetable fibre, and so unfits it for that contraction upon which its life and functions depend, is amply proved, by the experiments of many ingenious men, particularly of the Abbé Bertholen and Duhamel. These gentlemen found, that the *Mimosa pudica*, which had been excited to contraction by a rough blast of wind, after some time recovered its former situation; and, though the wind still continued, it did not again contract, till a stronger stimulus was applied.

The Abbé Bertholen found, that by a long and repeated electrization, the *Mimosa* was completely deprived of its characteristic irritability, and became as insensible to the action of stimuli as any common plant. The *Hedysarum gyrans*, as before-mentioned, was observed by Broussonet to contract less powerfully under the influence of the greatest heat of the meridian sun than at any other time, and to
lose

lose its power of motion entirely, when fecundation had taken place.

The irritability of the *Mimosa pudica*, and the *Cistus helianthemum*, was observed greatest in the morning, less under the meridian sun, and still further diminished in the evening, especially of a hot day.

When speaking of the state of the fibre of plants, produced by the ultimate action of stimuli, Mr Gahagan does not omit to notice the sleep of vegetables. This wonderful phenomenon of plants seems first to have been observed by Linnæus in the *Lotus ornithopioides*, and afterwards in many other plants. He thinks it necessary only to mention, that the sleep of plants consists in a certain form assumed by their leaves, generally on the approach of night; by which their external appearance is so much altered, as not easily to be recognized, even by those well acquainted with them. This state, from the following facts, seems to be produced by the previous action of stimuli.

Young plants, analogous to young animals, being endowed with the greatest proportion of irritability, and therefore most liable to be

deprived of it by the action of stimuli, are most remarkable for this property of sleep.

The sleep of plants is more observable in Spring than at any other season of the year, owing to the previous cold of Winter favouring the accumulation of irritability, which, as has been just now mentioned, becomes the more accessible to stimuli, and consequently the easier of exhaustion.

In some of the semiflosculosi, the intervals of sleep and waking are wonderfully regular. The *Tragopogon*, called in English *Go to bed at Noon*, and the *Hibiscus trionum*, close as soon as the sun has passed the meridian. The *Sida horologium* expands at eleven in the forenoon, and shuts at two in the afternoon. This variety of interval seems entirely to depend upon the different degrees of irritability in the flowers; and this alternation of expansion and closing ceases, as soon as the fecundation of the germ takes place.

These phænomena of sleep and waking in plants, cannot be explained on any principle of consciousness in them, as has been alleged, to guard themselves against the injuries of cold and darkness; for they are observed to
take

take place as well when the plant is conjoined to darkness as when exposed to light, and in a hot-house the same as in the open air.

In addition to what has been already said, little, he thinks, is necessary to prove, that, by the subtraction of stimuli, irritability is increased; and, in proportion to its accumulation, is more easily acted on and exhausted. The effects of increased irritability in the animal fibre, he observes, is well known in those afflicted with scurvy, or in those who have suffered much from blood-letting, or other evacuations; in whom stimuli, which, in health, would scarcely produce any sensible effect, will operate most violently.

In that state of the body, too, induced by hunger, the effects of a full meal are sufficiently known, as are also those of heat, in a body apparently frozen to death.

Whether light, according to the opinion of Monsieur de la Metherie, has any influence in producing the green colour of plants, in the manner laid down by him, viz. by a chemical evolution of pure air, Mr Gahagan considers as a discussion in some degree foreign to his subject: But he thinks he may maintain, as a matter of un-

doubted certainty, that, in all cases whatsoever, light acts upon plants as a uniform and essential stimulus, and that upon its abstraction depend many diseases characteristic of increased irritability: One, in particular, merits attention, called by the French *ébotement*, for which we have no appropriate term in our language. It consists chiefly in the want of the green colour, and other sensible qualities of plants. It may be observed, that as, in animals, the subtraction of heat, by interrupting the balance which ought to subsist in the system, between the powers excited and those exciting, will induce a state resembling sleep; so, in some plants, the removal of light will occasion sleep at any hour; diminished action being the constant consequence, in both, of a too great, or a too small supply of irritability, beyond a certain range.

It appears, Mr Gahagan observes, by some experiments made here, to which he has himself been witness, that the growth of plants, to which heat and cold were alternately admitted, was more rapid, than of those to which a more uniformly warm temperature was applied.

During

During the Winter, from the absence of heat, and in a great measure light also, plants remain in a state of torpidity, analogous to the hibernation of animals. The motion of the fluids is almost at a stand; nutrition goes on in a languid manner; and, as in the Bear and other arctic animals, the freezing hand of Winter almost suspends the functions of life. But, on the return of the genial rays of Spring, the increased irritability, occasioned by the previous cold of Winter, now comes to manifest itself; the growth of the plant is sudden and rapid; its fluids are propelled with inconceivable force; and in proportion to the coldness of the climate, and consequently to its increase of irritability, the evolution of the plant is quick; as is instanced in Barley, which in this country requires 120 days for its ripening, but in Lapland arrives at maturity in 58.

The action of cold upon the Mimosa, according to the experiments of Mons. Duhamel, and the effects following the transplantation of vegetables from poor to rich soil, may be referred to the same head.

The *ergot*, or spur, a disease to which the rye, and other of the gramineous plants in the

district of Solagni in France are liable, seems to be analogous to scurvy in the human body, depending entirely on the abstraction of the necessary stimuli; as, by the Abbé Tefsiere, this disease was discovered to be entirely owing to the poverty and humidity of the soil.

Having, as he thinks, by these facts established the existence of irritability, and the laws by which it is governed in plants, the author next proceeds to show, that the functions of vegetables, viz. germination, nutrition, propulsion of fluids, perspiration, absorption, respiration, and generation, entirely and completely depend upon this principle, and are influenced by every modification or change to which it is liable. But, from the limited nature of our work, we cannot give the whole of his arguments upon these different points.

The first motion of the corculum, says he, in the seed, is excited by the application of certain stimuli; which stimuli are air and moisture. The nutrition of plants seems to depend entirely upon the power of absorption, with which the leaves and roots are particularly endowed. Air, water, and light, are here both the objects of nutriment, and the ex-
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citing powers. This he proves from the experiments of Boyle, Van Helmont, Duhamel, Hales, Bonnet, and Ingenhoufz, in refutation of the opinions which held, that oil, salts, and elementary earth, were essential for this purpose.

The motion of fluids in plants, Mr Gahagan thinks, is explicable upon no other ground than that of irritability. A variety of opinions have been entertained with regard to the motion of sap in plants; some ingenious men supposing it performs a circulation similar to that of the blood in animals; whilst others deny this, and assign only the simple motion of ascent to it. However this may be, the velocity with which the sap ascends, as proved by Dr Hales, through the stem of a vine in the bleeding-season, is truly wonderful; this gentleman having found it five times greater than that with which the blood passes through the crural artery of a horse. Various hypotheses have been offered to account for this; the most wild and extravagant of these, in our author's opinion, is that which supposes such astonishing velocity can be performed by the trifling and inconsiderable force of capillary attraction. Is it possible to conceive, that vessels transmitting so
great

great a quantity of fluid in so short a time, can have that degree of diameter only which in capillary tubes is capable of producing the effect?—How does it happen, that the sap flows in greater quantity, and with more force, in the Spring than in the Summer, while the number and size of these vessels are not diminished, and the heat (to which alone some have attributed the sap's motion) is increased? Besides, capillary tubes, when broken across, do not pour out their contents; because the ascent or motion of fluids in them, seems to depend upon the attraction of that ring immediately above the surface of the fluid. Besides, this attraction must cease, according to the laws of gravity, long before the fluid can arrive at the top of tall trees.

The true causes of this variation of force in the ascent of the sap, in the opinion of Mr. Gahagan, depends upon the various proportion in which, at these different seasons, irritability is present in the plant. From the previous accumulation during the Winter, it is most abundant in Spring; from which time it continues gradually to diminish, by the action of stimuli, till at length it ceases to be acted on at all;

all; which takes place about mid-summer, and is marked by the falling of the sap.

If capillary attraction be insufficient to account for the motion of the sap, still less will that or any other mechanical action account for the production and motion of the proper juices of plants. It must be perfectly evident, upon the slightest consideration, that these juices are formed by secretion from the sap, which no person will venture to ascribe to any mechanical agency whatever.

It is unnecessary here to dwell an instant upon the assimilating power which vegetables possess, or to point out the obvious and complete analogy which it bears to the secretion of animals. The experiments of Hales, Duhamel, Bonnet, and other ingenious vegetable physiologists, will, the author thinks, fully satisfy those to whom doubts may occur on this point.

Perspiration and absorption are no less manifest in plants, than those functions we have already mentioned. Electricity was found by the Abbé Nollet, and Mons. Jallabert, to increase most powerfully the perspiration of vegetables. Heat, every person must know, from Hales's experiments, produces the same effect.

For

For the proof of air-vessels existing in plants, and answering as organs of respiration, Mr Gahagan resorts to the experiments of Ingenhoufz and Malpighi, and also for the effects of the different airs upon them, viz. inflammable, phlogisticated, and fixed.

The direct impulse of the rays of light, seems to be necessary to enable plants to change foul into respirable air, without which they rather contaminate than purify the circumambient air. Hence, says the author, we should admire the goodness and wisdom of the Creator, in having deprived the greater number of plants of their leaves during the Winter, when, from the weaker influence of the rays of light, and the diminished proportion of the presence of the sun above the horizon to that of its absence, the noxious influence of vegetable respiration would render the air totally unfit to sustain animal life.

Besides the functions of plants already enumerated, they have a power, analogous to animals, of generating heat; as is proved by the experiments of Ingenhoufz and the ingenious Mr Hunter: which power the author, by many arguments,

arguments, endeavours to prove, depends upon irritability.

From the whole of these facts taken together, the author draws the following conclusions :

1st, That the only functions which do not seem to be common to vegetables with the animal kingdom, are those which result from the presence of a brain and nervous system, viz. sensation, thought, and voluntary motion.

2^d, That since plants possessed of irritability, but without a brain and nerves, exercise most of the functions of vitality, it is probable, these functions in animals are equally independent of nervous energy.

Concerning the above conclusions we shall make no observations, but leave our readers to judge for themselves; and indeed it would perhaps be unfair to form any decided opinion, till the doctrine be delivered to the public at full length. We may only observe, that it naturally suggests to us the very great fluctuation of medical theories. At present, among several of the most ingenious students at this place, almost every phænomenon of the
living

living body, both in a state of health and disease, is ascribed to irritability, considered as a primary essential property of the muscular fibre, and altogether independent of the nervous power.

Not long ago a doctrine was introduced here, and became even fashionable among some ingenious students, which considered the term *irritability* as being a word without a meaning; and irritability itself as having really no existence. All the phænomena which philosophers in general have ascribed to it, were attributed to what was called *excitability*, which was considered as an indivisible whole, existing equally at all times over every part of the system: And from excitement being either increased or diminished, all diseases were explained. Thus, Dropsy was ascribed to one degree of diminution, Fever to another, Epilepsy to a third, Palsy to a fourth, and the like. Hence these affections were considered as being in reality only different degrees of the same disease. But the absurdity of this doctrine could hardly fail to be self-evident to any one conversant in actual practice, who must have seen every different degree of diminished excitement.

citement or of debility in each of these diseases, without even the slightest appearance of any of the others.

The system to which we have above alluded, is very different from that just mentioned, nay, in most particulars, very opposite to it. It also, however, attempts to simplify medicine. But how far it will be found, either in part or in whole, founded on truth, must be determined by the test of candid observation, after the doctrine itself is fairly in possession of the public.

* * * *

We have been favoured with the following observations, by an ingenious and learned friend in London.

On examining the lungs of people who had died of pulmonary consumption, I have always found tubercles, but in some cases no vomicae. In some instances, it appeared that patients lived till the lungs were so destroyed by vomicae,
that

that apparently not a twentieth part of them were able to perform the function of respiration; and on good authority I can affirm, that, on the dissection of one case, the whole of these viscera were found wanting, nothing remaining but the external membrane which covers them. In that case, the pleura adhered to the whole cavity of the thorax. On these occasions, the cause of death, it will readily be allowed, is clear. But, in other cases, I have found only tubercles, or a few vomicæ, and the greater part of the lungs seemingly fit for respiration. Hence it is plain, that, in this disease, death is not solely occasioned by a certain degree of disease, consisting in tubercles and vomicæ of the lungs. In nine instances of ten, where vomicæ have been present, I have found them chiefly, and, in some cases, only, in the superior part of the lungs; where they were sometimes extended to the pleura covering them under the clavicles. Usually, there is a firm adhesion between that part of the lung, immediately under the membrane of which vomicæ are situated, and the pleura lining the cavity of the thorax. Frequently, the matter of the vomicæ destroys the pleura, both
of

of the lungs and of the cavity of the thorax immediately over it; nay, in particular cases, it even erodes the intercostal muscles; so that it would seem as if a spontaneous cure were attempted, by the matter of vomicae destroying the parts between their original seat and the skin. I was informed by a very experienced practitioner, that, in one case which fell under his observation, a tumour was observed externally on the thorax, every time the patient inspired. The case being apparently desperate, unless by a discharge of the matter outwardly, and being at the same time attended with excruciating pain, an opening was made into the tumour with a lancet, from which a great quantity of matter flowed, and the patient at last recovered.

In a case of hydrocephalus internus, which occurred in a boy about the 10th year of his age; on dissection, the cranium, which was of a preternatural size, the futures being at a distance from each other, was found exceedingly thin and transparent: the whole water was lodged in the lateral ventricles, and amounted in quantity to about ten ounces. In the substance of

the cerebellum there were found three round tumours, each about the size of a hazel-nut.

The new bitter bark, lately imported from Angostura, is found to cure the intermittents of this country. The tincture of it is discovered to be an admirable and agreeable stomach medicine.

On the dissection of a man, who evidently died from the violence of the symptoms in an acute rheumatism, no morbid appearances were discovered in the brain, the lungs, the heart, or other vital parts; but, on examining the joints which had been most pained, a collection of pus was found within them, and a thickening of the ligaments. This was a decisive proof, that the rheumatism does sometimes terminate in suppuration. Perhaps, if the enquiry were oftener made, such suppuration would be frequently found.

A patient in the 35th year of his age, laboured under an anasarcaous dropsy, and being a drinker of porter and gin, his disease was supposed to proceed from hard drinking. He had, at times, a very irregular and intermitting
pulse.

pulse. An erysipelatous fever supervened, of which he died. On dissection, no internal inflammation was found; but a tumour was discovered in the left ventricle of the heart, supported by three peduncles of fleshy substance, which grew to the heart. This was admitted to be a real polypus by some learned anatomists, who had before believed there was no such disease.

Ulcerations from the venereal disease sometimes take place in parts in which they are not suspected. A man complained of a sense of foreness referred to the trachea. He was hoarse, and had a particular sound in his voice, and a slight difficulty of deglutition. This was supposed to be some organic disease of the trachea; and remedies, with a view to its removal, were tried in vain, both externally and internally. At last, from a mere conjecture of the possibility of venereal ulceration, mercury was exhibited internally, and the patient soon recovered his natural voice, and was free from complaint.—A woman had her tongue covered with small vesicles, which, bursting, left ulcerations, soon extending rapidly, so as

to form deep large cancerous-looking sores, and to threaten a speedy destruction of the whole organ. The case was supposed to be cancerous; but, if so, there was reason to believe it would be increased by mercury; and, if venereal, which, however, was thought improbable, it would be cured by it. Mercury was exhibited, calomel being taken to the extent of three grains every day. After she had taken only three or four doses, the ulcers appeared of a much less malignant aspect; and in a few days they were entirely healed.

In a case of hepatitis, the antiphlogistic plan, viz. blood-letting liberally, purging and blistering, and at the same time mercury used externally, and given internally, so as to salivate, were employed. The patient was restored to health; and there was great reason to believe, that, without this treatment, suppuration would have happened.

The yellow resin brought from Botany Bay appears to be a variety of the benzoin.

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An ingenious correspondent in the Island of Grenada, has favoured us with the following extraordinary account of the state of the pudendum of a female, imported into that island from Africa.

A stout young athletic negro driver, having made choice for his wife of a neat young negro girl, just brought out of a cargo, with equal rapture and vigour, attempted the completion of hymeneal bliss, but without success. The flattering opinion of virginity reconciled him to disappointment on his first essay; but a second and third being equally fruitless and mortifying, from a consciousness of his own ability, he was led to examine the parts, and with astonishment informed the manager, that his wife was neither woman nor man. This intelligence the manager communicated to my partner and me; and, sympathising ten-

derly with the disappointed husband, he wished to know if any thing could be done.

Upon examination, we were astonished to find hardly a trace of clitoris, nymphæ, or even labia pudendi. The parts were as flat and as smooth as the palm of my hand. Upon more narrow inspection, a cicatrix could be traced, from the mons veneris down to the perinæum. At the lower end of this cicatrix, a small hole was discovered, scarcely large enough to admit a common probe. Through this opening, we were witnesses to her making water, guttatim; and we were informed that she menstruated in the same manner.

As we found the obstruction to consist in a simple adhesion of the integuments, being able to pass the probe up higher than the urethra, we judged it proper to divide the cicatrized parts, for the purpose of facilitating the natural discharges, which, confined as they evidently must be, in the obstructed passage they now had, particularly menstruation, might have occasioned the most serious evils.

Having secured the woman, in the same manner as is practised for the operation of lithotomy, a grooved probe was introduced, on
which

which the integuments were divided, as high up as it was thought proper to go. But it was afterwards found, that the opening was still small; and there was reason to believe, that it would become more straitened and rigid when fully cicatrized. Another incision was therefore made downwards, for about a quarter of an inch; and proper dressings were applied to keep the parts from closing.

Upon visiting her some days afterwards, we found, that little attention had been paid to the directions given, and that the parts had begun to coalesce. We then again dilated both upwards and downwards, to prevent any unfortunate event in case of pregnancy; a condition, which there was reason to expect might occur.

In labour, there would be the greatest dread of danger, from the rigidity of the parts when cicatrized, and their want of dilatability. On this ground, our advice had been rather against giving the means of coition, which might prove fatal to her. But her entreaties, as well as those of her husband, and repeated attempts which he had lately made, notwithstanding the vigilance of those to whom she was entrusted,

rendered it now a matter of prudence to dilate as much as possible. But, on healing, the parts coalesced considerably, so as to make the opening much smaller than was intended. From this reason, or perhaps from caprice, she was afterwards deserted by her husband; upon which she fell gradually into a state of melancholy, and died a few months after.

Her own account of this phænomenon, corroborated by many of her nation, was, that when a child, she underwent a circumcision, practised in some parts of the coast of Africa. Her mother died, soon after the operation was performed, and no proper attention was bestowed upon her. In this way, it is reasonable to suppose, that the above coalescence may have been formed.

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With the following well authenticated instance of four children delivered at one birth, we have been favoured by an ingenious gentleman,

tleman, Mr J. Spencer, from the Island of Dominica, who had himself an opportunity of seeing both the mother and children.

A negro woman, named Benebah, was brought from Africa to Dominica in the year 1782, and soon after was married to one of her own countrymen. By him she had one child. But, this husband dying; soon after that, she married another of her countrymen, with whom she lived for several years without having any children. But at length she became pregnant; and had no other reason for suspecting a plurality of children, excepting an uncommonly large size. On the 22d of February 1789, when, according to her own computation, she had been about nine months pregnant, she was seized with labour-pains; and, by the assistance of a negro woman on the estate to which she belonged, who officiated as midwife, she was delivered of a boy, to appearance healthy, and of the ordinary size. But no placenta coming away, and marks of pregnancy still continuing, an accoucheur was sent for, who, about 24 hours after the birth of her first child, delivered her of three girls, all of
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the ordinary size ; after which, he extracted a placenta of an enormous size, which he computed would have weighed about fifteen pounds. After this she had a very good recovery, and was able to walk about by the eighth day. She gave suck to all her four children, also employing, however, with them at the same time a good deal of spoon meat. Mr Spencer saw them when about five months old. At that time they were all stout children, and, as well as their mother, in perfect health.

When Benebah was delivered of these children, she was about the 30th year of her age. She measured five feet two inches in height. Her husband, who was in his 35th year, was a stout well-made man, about the middle size : and it may perhaps be mentioned as a singularity, that both she and her husband were twins.

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An ingenious gentleman, who, during the late war, officiated as surgeon's mate to a British regiment stationed for some time on the Mosquito Shores, informs us, that the natives of that part of America, cure, with great success, dysenteries, to which they are very liable, by means of a vegetable remedy, distinguished by the name of Flux Bark. He has not been able to furnish us with any accurate botanical description of the tree which produces this bark; but it grows, he tells us, in great abundance in the low sandy savannahs about Black River, Mosquito Shore, and is in general from ten to fifteen feet high.

In the year 1785, when some British troops were sent from Jamaica to that part of the coast of America, they were much troubled with dysentery, which carried off great numbers of them. This was the case, till one of the natives informed the surgeon of the use of
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the bark above-mentioned, as a remedy for that disease ; and after they began to employ it, not a single man was lost of that affection. The form under which it was chiefly employed, was that of decoction. This was prepared, by boiling an ounce of the bark with three pints of water, over a gentle fire, to the consumption of one pint. This decoction was taken to the quantity of a wine-glassful every two hours. When first taken, it in general acts as a purgative, and was often found to cure the disease merely by itself. But it commonly answered best, after a saline purgative had been premised ; and when the intestinal canal has been previously cleared, it operates as a strong astringent. Besides the advantages derived from it in dysenteries, it was also found to be very useful against the complaints arising from worms, and in the cure of intermittent fevers.

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The Humane Society of London have lately published and distributed the following directions for the recovery of the apparently dead by drowning, and the various kinds of suffocation.

I. The restoration of heat is of the greatest consequence to the return of life. When, therefore, the body is taken out of the water, the clothes should be stripped off: or, if naked at the time of the accident, it must be covered with two or three coats, or a blanket, or any thing answering the purpose that can be most easily procured. The body should then be carefully conveyed to the nearest house, with the head a little raised. In cold and damp weather, the unfortunate person should be laid on a bed, and in a room that is moderately heated: in Summer, on a bed exposed to the rays of the sun, with the windows open, and not more than six persons admitted: a greater number may retard the return of life.

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The body is to be well dried with warm cloths, and gently rubbed with flannels sprinkled with rum, brandy, gin, or mustard. Fomentations of either of these spirits may be applied to the pit of the stomach with advantage. A warming-pan, covered with flannel, should be lightly moved up and down the back : Bladders and bottles filled with hot water, heated bricks, or tiles wrapped up in flannel, should be applied to the soles of the feet, palms of the hands, and other parts of the body.

II. Respiration will be greatly promoted by closing the mouth and one nostril, while with the pipe of a bellows you blow into the other with sufficient force to inflate the lungs. Another person should then press the chest gently with his hands, so as to expel the air. Thus the natural breathing will be imitated. If the pipe be too large for the nostrils, the air may be blown in at the mouth. Blowing the breath can only be recommended when bellows cannot be procured.

III. The bowels should be very soon inflated with the fumes of tobacco, and repeated three

or

or four times within the first hour; but if circumstances prevent the use of this vapour, then clysters of this herb, or other acrid infusions with salt, may be thrown up with advantage. The fumigating machine is so much improved, as to be of the highest importance to the public; and if employed in every instance of apparent death, it would restore the lives of many of our fellow-creatures, as it now answers the important purposes of fumigation, inspiration, and expiration.

IV. Agitation has proved a powerful auxiliary to the other means of recovery. One or more of the assistants should therefore take hold of the legs and arms, particularly of boys, and shake their bodies for five or six minutes. This may be repeated several times within the first hour. When the body is wiped perfectly dry, it should be placed in bed between two healthy persons, and the friction chiefly directed in this case to the left side, where it will be most likely to excite the motion of the heart.

V. When these methods have been employed for an hour, if any brew-house, bake-house,

house, or glass-house be near, where warm grains, ashes, lees, &c. can be procured, the body should be placed in any of these, moderated to a degree of heat very little exceeding that of a person in health. If the warm bath can be conveniently obtained, it may be advantageously used in conjunction with the earliest modes of treatment.

VI. Electricity should be very soon employed, as it will increase the beneficial effects of other means of recovery on the system. “The electrical shock, says Mr Kite in his *Essay on the Recovery of the apparently Dead*, is to be admitted as the test or discriminating characteristic of any remains of animal life; and, so long as that produces contractions, may the person be said to be in a recoverable state: but when that effect has ceased, there can no doubt remain of the party being absolutely and positively dead.”

VII. If sighing, gasping, convulsions, or other signs of returning life appear, a teaspoonful or two of warm water may be put into the mouth; and if the power of swallowing
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ing be returned, a little warm wine, or brandy and water, may be advantageously given. When this gradual approach towards recovery is observed, and breathing and sensibility returned, let the person be put into a warm bed, and, if disposed to sleep, as is generally the case, give no disturbance, and he will awake after a short time almost perfectly recovered.

The above methods are to be used with vigour for three or four hours ; for it is a vulgar and dangerous opinion to suppose, persons are irrecoverable because life does not soon make its appearance ; an opinion that has consigned an immense number of the seemingly dead to the grave, who might have been restored to life by resolution and perseverance.

Bleeding should never be employed in such cases, unless by the direction of one of the medical assistants, or some other respectable gentleman of the Faculty, who has paid attention to the subject of suspended animation.

On the first alarm of any person being drowned, or accidentally suffocated, let hot water, flour of mustard, warm blankets, hot flannels, flat bottles filled with hot water, a heated warming-pan, bellows, brandy, hart-

horn drops, and an electrifying machine, be instantly procured. These articles being in readiness, and immediately employed, may be the means of restoring many useful and valuable lives.

The common people will often restore life by pursuing the plans now recommended : but if gentlemen of the Faculty can be obtained, their assistance should be immediately requested, as their skill will lead them judiciously to vary the methods of treatment. And, in a variety of accidents, many more lives will be restored to the community and their families.

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It may not be improper in this place to observe, that in the *Journal de Médecine* for June, a description is given of an instrument for inflating the lungs, invented by M. Gorcy, physician to the Military Hospital at Neufbrisack. While this instrument is of such a construction that it may be used by any one with
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the greatest ease and facility, it is also better adapted for the purpose than any thing that has been yet proposed; because, while it is well fitted to imitate natural respiration, it has also the effect, both of introducing pure air, and of abstracting that which has been vitiated in the lungs.

We could not pretend, without the assistance of an engraving, to convey to our readers any accurate idea of it. We may only observe, that the apodopnic bellows, as they are styled, from the purpose for which they are intended, that, viz. of restoring respiration, consist of a double pair of bellows, which are completely separated from each other by a middle partition. Each pair of bellows is provided with two valves, to determine the openings at which air can alone be admitted when they are expanded, and expelled when they are closed. They are furnished with a flexible tube, which is introduced into one of the nostrils. The other nostril and the mouth being carefully shut, when the double bellows are expanded, the inferior one is necessarily filled with atmospheric air, drawn in at the valve in the middle of it; and the superior one is necessari-

ly filled with air from the lungs, drawn in at the valve, placed where the extremity of the flexible tube is conjoined to the bellows. When the bellows are closed, the air in the inferior one, which had been drawn from the atmosphere, will necessarily be forced into the lungs; and that in the superior one, which had been drawn from the lungs, will necessarily be expelled into the atmosphere. Thus, by the alternate play of the double bellows, the lungs will be alternately filled with pure atmospheric air, and emptied of that air, when vitiated, in their air vesicles, in the same manner as in natural respiration. In using the instrument, care should be taken not to be too violent, but to imitate, as perfectly as it can be done, the natural respiration.

By a small additional apparatus, which M. Gorcy also describes, this instrument may also be employed for the introduction of dephlogisticated air into the lungs, in place of common air; and if the opinions of Dr Goodwyn be well founded, from this circumstance great advantage may be derived. This is effected by supplying the inferior bellows, not from the atmosphere, but from a bladder filled with dephlo-

dephlogisticated air, adapted to the valve in its middle.

In the construction of this instrument. care should be taken, that each of the double bellows be of such a size, as to contain the medium quantity of air commonly introduced and expelled at each respiration; that is, about twelve cubical inches.

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With the following observations on the recovery of those apparently dead, which probably have already appeared in some of the London newspapers, we have been favoured by an ingenious correspondent in London.

No premature Interment to be dreaded.

THE late writers on the practice of resuscitation do not shew themselves impressed with an idea of the state of insensibility of a body

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that is *to all appearance dead*; the distinctive sign of which is, that, by no attempt whatever, an indication of pain can be discovered in any part, by pinching, scratching, pricking, cutting, scarifying, or cauterising. Unaware, therefore, of the necessity of immediately calling forth the first signs of life, by a known and successful method, without which no other attempt proves efficacious, they run out (taking a degree of remaining sensation for granted) in commendation of speculative means, furnishing subjects of experiment only to professional men, while they keep the matter wrapped up in mystery, reserving the treatment to themselves, and debarring the common class of men, who, all over Europe, have proved the most serviceable in the cause, from meddling with it at all.

Whether the discovery of *the noblest of antidotes to death itself*, so highly extolled in the Gentleman's Magazine and Morning Chronicle, the application of electricity, belong to *Baron Hupfch* at Cologne, or, by priority, to the *Manager* of the London Humane Society, is of little moment, while neither of them adduce the least proof of its efficacy from trial,
when

when other means failed. The Baron recommends it as *simple, and easy to put in practice*, but gives not the least hint of his mode of proceeding; nor does he advert to the difficulty of obtaining an apparatus, its great price, the ignorance of most men how to apply it, and other circumstances obstructive to its use. What is most to be feared from the trial he wishes universally to be made, is, that it may prove as dangerous in loss of time, as the leaving of a corpse to go in quest of a medical assistant.

In regard to *premature interments*, though painted with all their attending terrors, it may safely be said they are not to be apprehended. There has not appeared, for half a century, one well-attested proof of the burial of a person in whom the least spark of life remained; nor is there room to believe it can happen. A corpse is either absolutely dead from immediate disease, or it is brought to that state by the prejudiced way of acting of the various attendants of the sick, who draw away the pillow at the appearance of death, and strip them too soon; officious to show a straight and well-looking dead body. This latter cause of security,

curity, distressing to all humane feelings, yet too often given, cannot be enough reprobated: It can, however, readily be removed, and another way of proceeding introduced, by ordering trials to be made upon every person, immediately at the appearance of death, to decide whether it be real or not. That their state can thus be ascertained beyond a doubt, will inspire confidence in those who may yet labour under the old apprehension; and they will be led to insist upon its being done, when they are assured that it can be performed by nurses and servants, and that it consists in a few means, easy to be remembered, that have often been published by Dr Johnson, from the successful practice followed in Holland, where, out of any given number of patients, more have been recovered than in any other country. They are brought within the compass of so few lines, that it cannot prove tedious to repeat them here.

“ A body under the appearance of death,
“ is to be rubbed all over for a length of time,
“ with soft and dry flannels;—to be moved a-
“ bout with the blanket upon which it lies, to
“ break

“ break its deadly rest. Its parts most sensible
 “ while alive, are to be chafed with diluted
 “ spirits of hartshorn, or sal-ammoniac:—These
 “ spirits are to be held to the nose, which oc-
 “ casionally is to be tickled with a feather.—
 “ Air is to be blown into the mouth or no-
 “ strils, and aromatic vapour up the funda-
 “ ment.”

A treatment so plain, so inexpensive, so easily practicable, answers the great end of restoring life in all practicable cases: Its efficacy is decisive in those that regard interment; and in all others it is safer, and therefore preferable to new and speculative methods; in the trials of which, as above hinted, a life may be lost, that would have been saved by the immediate administration of these means; which alone have proved effectual; which deserve the name of *specifics*; and of which it may be said, nearly in the German baron's words, That *those who know, and have not recourse to them, are accessory to the unfortunate person's death.*

VERUS.

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We are informed, that an academy of the fine arts has lately been established at Mexico, in Spanish America. The Director and President is M. Solma, known to the world as an ingenious artist, by his elegant plates to Don Quixote, and by several other works.

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Dr James Anderson of Madras, has published in that country, a collection of letters, by himself and others, on the subject of the culture of the cochineal insect on the Coromandel coast, and the territories of Bengal. He thought at first that he had discovered the true cochineal insect on plants that are natives of that country. But upon a careful examination it appeared,
that

that although this was a true insect of the *Coccus* tribe, it differed in several respects from the real cochineal, and that, in particular, it could not be made to yield the true scarlet dye to woollen stuffs, by the common process of dyeing.

In prosecuting these enquiries, he has also discovered many other varieties of this class of insects, no less than eight in all. These, in the peninsula of India, are supported on different plants, particularly on the following :

1. The *Coccus Chlocoon*, or *Kermes Choromandelenfis*, is found on the *Aira Indica*,
2. The *Coccus Oogenes*, on the *Phylanthus emblica*, *Hibiscus populneus*, &c.
3. The *Coccus Irichodes*, on the *Psidium guajava*, *Annona squamosa*, &c.
4. The *Coccus Erion*, on the *Robinia mitis*, *Ficus Indica*, *Myrtus zeylanicus*, &c.
5. The *Coccus Micro-ogenes*, on the *Vitis vinifera*, and *Galega prostrata*.
6. The *Coccus Koleos*, on the *Solanum melongena*.
7. The *Coccus Diacopeis*, on the *Citrus sinensis*.
8. The *Coccus Narcodes*, on the *Wodier*.

Several

Several of these insects promise to afford useful dyes ; but none of them are nearly equal in brightness to the true cochineal. And although the most diligent search was made through all the British provinces in India, not a single plant could be found of the *Cactus cochiniferus* of Linnæus, the *Opuntia spinulifolia obtusifolia* of other botanists, the Nopal, as it is called in Mexico. At length, however, from the persevering industry of Dr Anderson, and the spirited exertions of those who assisted him, he obtained first from China a few plants of the true *Opuntia*, and afterwards, from the Cape of Good Hope, several plants of the Mexican Nopal. These last he found to be in no respect different from the true cochineal *Opuntia*. These Dr Anderson cultivated in his own garden near Madras, and found that they prospered very much. From his success, from the favourable state of the climate, from the surprising cheapness of labour, and from the habitual industry of the natives, the Directors of the Honourable East India Company concluded, that the culture of cochineal might be introduced into the British dominions in India. Accordingly, a piece of ground

ground has been inclosed, and a superintendent, with proper assistants appointed, for establishing a nursery of *Opuntia* or *Nopal* plants, under the superintendence of Dr Anderson. These, as well as live insects, to be fed upon them when propagated to a sufficient extent, are to be distributed among the natives. Thus there is reason to hope, that in no long time this valuable article may be obtained from our own settlements in India, much cheaper than we are at present supplied with it from other countries.

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Mr Philip Jones, of Charlotte-Street, Bedford-Square, London, by trade a staymaker, who has of late been much and justly distinguished for the cure of crookedness or distortions of the spine, on which subject he some time ago published an essay, was lately prevailed upon to visit Edinburgh, with a view of giving his assistance in some cases of this kind; and we are happy to say, that, in some of them,

them, the application of his machine has, hitherto at least, been apparently attended with the best effects.

In the treatise to which we allude, Mr Jones offers many observations on the causes of distortion. This he ascribes to a want of ossific matter in the vertebræ, and to too great pressure from the parts above the incurvation. He endeavours to show, that the common modes of cure which have in general been practised, such as the neck-swing, the screw-chair, ringing the dumb bells, &c. are deceptive and mischievous, and calculated rather to confirm, than to cure or alleviate the complaint. He contends, that in order to be of any real service, it is necessary to take off the superincumbent weight from the parts affected, by the easiest and most gradual means possible; continuing this process for a longer or shorter time, which will be determined by the strength or weakness of the system, and the quick or tardy exertions of nature. In proof that the apparatus which he makes and applies is productive of these effects, he relates a number of cases, in many of which practitioners of the first eminence were concerned, and in which the due continuance of
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its use was attended with the best effects. And, among other testimonies in favour of it, he gives the following, as delivered by the late Dr Hunter, in his lectures in the years 1776 and 1777.

“ This mechanical contrivance not only takes off the superincumbent weight, but extends the spine in a constant gradual progression; and thus continued for a time, until, by a proper deposition of ossific matter into the mollified vertebræ, they become firm and compact bones. Hence, then, the subject will be made straight, and remain in that situation: for there is a disposition in nature always to help herself when oppressed, if she be assisted or relieved by art.”

But although Mr Jones's book contains many testimonies of the advantages which have resulted from his practice, yet it can hardly be considered as conveying any other useful information to the reader. He has indeed given several elegant engravings of distorted spines: but the value of his volume would have been much increased, had he also furnished us with an accurate figure and description of his apparatus. With regard to it,
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we may only observe, that it is very nearly the same with one long since accurately delineated and described by M. Le Vacher, in the Memoirs of the Royal Academy of Surgery of Paris *. But his apparatus, though demonstrating much ingenuity and contrivance, could never be considered as introduced into practice, at least in this country. And although Mr Jones may not have the merit of having made even any material improvement on M. Le Vacher's machine, yet he has at least been the first, as far as we know, who has applied it with such success in actual practice in this country, as clearly to demonstrate the benefit which may be derived from it.

Dr

* Nouveau moyen de prevenir, et de guerir la courbure de l'Epine. Par M. Le Vacher. *Vide* Memoires de l'Academie Royale de Chirurgie. Tome quatrieme, p, 596. 4to, Paris, 1768.

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Dr Adair Crawford of London, who has eminently distinguished himself as a chemical philosopher, has lately introduced into the practice of medicine the use of the muriated Barytes, or Terra ponderosa muriata, as it is often called. In a letter to Dr Duncan, he gives the following account of it.

“ I was led several years ago, by an attention to the sensible qualities of this salt, to conclude, that it would probably make a valuable addition to the *Materia Medica*. But I did not try it on any extensive scale till last February. Since that time, I have given it in a great variety of cases, and have found it a most efficacious remedy, in some of the most distressing maladies to which human nature is incident. My experience of its medical properties is not yet sufficiently extensive, to permit me to draw general conclusions with certainty;

but, from the effects which it has already produced, I have reason to believe, that if it be administered judiciously, and continued for a sufficient length of time, there are few cases of scrophula which will not yield to it.

“ In a paper, which will in a short time be inserted in the Medical Communications of London, I have given a brief account of all the patients in St Thomas’s Hospital, to whom I have exhibited it during the months of February, March, April and May; and from that account you will perceive, that scrophula has been subdued by it, after it had arrived at its last stage, and assumed its most malignant form. In many cases of cancer, it acts as a palliative, and in two instances it has removed the disease.— The one was a cancerous affection of the nose, and the other a large ulcerated cancer of the breast. But the cure in the last of these cases was not to be ascribed to the muriated Barytes alone; for the exhibition of this salt was joined with the external application of the dephlogisticated marine acid, diluted with thrice its weight of water.

“ The muriated Barytes has likewise been very successful in cutaneous eruptions, and in old
ulcers

ulcers of the legs ; and I have reason to believe, that it will be a good auxiliary in dropfy.

“ I have hitherto used a faturated solution of the salt in water, to which a little excess of acid was added. The dose is from four to eight or ten drops, in any convenient vehicle, twice in the day. The vehicle which I have generally employed, was soft or distilled water. If it be given in hard water, it will be rendered inert.

“ Its usual effects are, an increase of the flow of urine, and an improvement in the appetite and general health. In some cases it operates as a gentle laxative and diaphoretic ; and, in a few instances, it has acted powerfully as a sudorific. The principal objection to its use is, the difficulty of obtaining it pure. The spar from which it is extracted is generally found in lead mines, and is, for the most part, intimately intermixed with a variety of metallic substances ; particularly with lead, iron, arsenic, and sometimes with copper. I have, however, the satisfaction to inform you, that there is a very ingenious gentleman here, a Mr Cruickshank, who has discovered a method of com-

pletely disengaging it from heterogeneous mixtures, and of obtaining it in a state of perfect purity. This gentleman supplies it for sale to Messrs Payne and Crawford, chemists and druggists, N^o 66. Leadenhall Street, London. It may not be improper to mention, that there is a mineral sold for the aërated Barytes at Strontian in Scotland, which I have found to be a different substance from the true Terra ponderosa. It appears to be a new earth, the properties of which have not yet been sufficiently examined."

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The following account of the prizes distributed and proposed at the Public Assembly of the Royal Society of Medicine of Paris, held in the Louvre on the 1st of September 1789, is extracted from their program, lately published.

P R I Z E S

PRIZES DISTRIBUTED.

I. The Society had proposed, on the 11th of March 1783, as the subject of a prize of the value of 800 livres, the following question :

Exposer quelles sont les maladies qu'on peut regarder comme vraiment contagieuses ; quels organes en sont le siege ou le foyer, et par quels moyens elles se communiquent d'un individu à un autre ?

None of the memoirs received having answered the expectations of the Society, they have, with regret, withdrawn this question ; recommending it however to the attention of physicians both native and foreign.

II. On the 28th of August 1787, the Society proposed, as the subject of a prize of 600 livres, founded by the King, the following question :

Determiner la nature du pus, et indiquer par quels signes on peut le reconnoître dans les différentes maladies, sur-tout dans celles de la poitrine ?

Among the memoirs sent on this subject, none has been considered as meriting the prize. But the Society have thought proper to distinguish a memoir which had for its epigraphe,

Fas sit mihi visa referre.

They considered the practical and experimental parts of this dissertation as deserving great praise, though not sufficiently complete for resolving the question. This memoir was written by M. Cusson, Vice Professor of Botany in the University of Montpellier: and the Society have conferred upon him a gold medal, of the value of a jeton d'or (a gold counter, about five or six and twenty shillings in value). At the same time they have decreed, to propose the same question again as the subject of a prize of 600 livres. The memoirs to compete for this, must be sent to the Society before the 1st of December 1790.

III. The Society, desirous of collecting all the knowledge acquired by experience concerning the artificial nursing of new-born infants, and to present to the public on this subject a collection of facts which could not be contradicted,

contradicted, formed a program, which was read in the Public Assembly of the Society on the 12th of February 1788, and was transmitted to the Associates and Correspondents of the Society, enquiring of them,

Quel plan ils ont suivi, ou vu suivre, dans les essais d'allaitement artificiel, dont ils ont été temoins ; quelle methode on a employée pour nourrir les enfans, soit pendant qu'ils se portoient bien, soit pendant qu'ils étoient malades ; quelles ont été leurs maladies ; quel a été le resultat de la mortalité, et à quelle cause on l'a attribué ; si c'est à la nourriture artificielle même, ou à de causes qui lui étoient étrangères, tel que la maladie venerienne, l'entassement des enfans, ou le muguet ?

This prize of 2000 livres, conferred by the beneficence of M. de Crosne, formerly Lieutenant-General of the Police, was to be distributed under the form of gold medals of different value, conferred upon the authors of the memoirs sent for competition.

No program proposed by the Society has ever fixed the attention of a greater number

of physicians. The Society have divided the memoirs received into four classes.

The memoirs referred to the *first* class, enriched with a great number of facts, present new views, interesting comparisons, and happy results. They have the double merit of answering every part of the question, and of reducing the whole to great order. These memoirs amounted to four in number; and the Society have adjudged to each a gold medal of the value of 300 livres.

The first, intituled, *De recens natorum artificiali nutritione lucubratio*, and bearing for its epigraphe, *Beatus ille qui misertus pauperis, &c.* was sent by M. Iberti, Doctor of Physic, residing in Edinburgh.

The second was sent with the following epigraphe :

*Heu miserande nothe! amissa qui matre relictus,
Ubere ab externo vitia sæpe bibis.*

It was the work of M. Jurine, formerly Surgeon to the General Hospital at Geneva, and residing in that city.

The third, intituled, *Maniere nouvelle d'élever artificiellement les enfans nouveau-nés*, was sent
by

by M. Percy, Surgeon-major to the Division of Flanders and Artois, and Associate of the Royal Academy of Surgery.

The fourth was by M. Hervel, M. A. Surgeon to Monsieur the King's Brother at Mondoubleau.

The memoirs of the *second* class, contain researches made with a great deal of care in those countries where the artificial nursing is much used ; with an account of those circumstances which render that practice more or less happy. In these are to be found many judicious remarks, which prove, that the authors have attentively observed the different procedure of artificial nursing. These memoirs were five in number ; and the Society have decreed to each of them a gold medal of the value of 100 livres.

The first of these memoirs has been sent by M. Guegot-de-Traoulen, Physician at Ingrande in Lower Anjou ;—the second, by M. Dufau, Physician at Dax ;—the third, having for an epigraphe, *Dum lactant maculant*, by M. Dufour, Physician at Noyon ;—the fourth, by M. Degland, surgeon at Lille ;—and the fifth, which
had

had for an epigraphe, *Quibus tanto magis omnis observatio necessaria, quanto magis obnoxia offensis infirmitas est*, by M. Strack, Professor of Medicine at Mentz.

The *third* class comprehends memoirs in which the Society have remarked either peculiar researches on some one important point in the program, or a small number of interesting facts presented with method. These memoirs amounted to six in number; and the Society decreed to the author of each a gold medal of the value of a jeton d'or.

The first of these memoirs was sent by M. le Chevalier de la Coudray, residing at Sables d'Olonne, and one of the Deputies to the States-General;—the second, by M. Mafon, Surgeon at Sompuis in Champagne;—the third, by M. Le Brun, Surgeon at Vandœuvre;—the fourth, by M. Germignac, Physician near Uzerche;—the fifth, by M. Robineau, Surgeon at Dourdan;—and the sixth, by M. Lambron, Surgeon at Orleans.

In the *fourth* class are arranged those containing particular observations, the detail of
which

which is curious and worthy of preservation. The Society has decreed to make honourable mention of these dissertations, which are six in number. The first was sent by M. Bonin, Physician at Clifton in Brittany ;—the second was sent from Caen, with the epigraphe, *Artem experientia fecit*, the author of which is invited to make himself known ;—the third, by M. Sacombe, Knight of the Order of Merit ;—the fourth, by M. Pallet, Advocate residing at Bourges ;—the fifth, by M. Renou, Surgeon at Fougères ;—and the sixth, by M. Moulet, Physician at Montauban.

IV. The Society having, some years ago, undertaken an enquiry concerning Epilepsy, had solicited their Correspondents and Associates to communicate their observations on that subject ; Mr Ramel, Physician at Aubagne, has distinguished himself by his zeal, by the assiduity of his correspondence, and by new and interesting details which he has communicated. His observations have been followed out with great precision for the space of four years ; a circumstance which adds not a little to their merit, as we cannot be assured
of

of the cure of an epileptic, till after the lapse of a considerable space of time. The Society, desirous of giving a mark of acknowledgment to Mr Ramel, has adjudged to him a medal of the value of a jeton d'or. The Society has also been much satisfied with the observations sent on the treatment of Epilepsy, by Messrs Thibaut of Dunkirk, Dufau of Dax, Lorentz of Schelestat, Percy of Strasbourg, and Bagot of S. Brieux.

V. The Society is in the practice of distributing, at their public assemblies, prizes to the authors of the best memoirs sent them upon Epidemic and Endemic diseases; on the diseases of Artisans; on the Mineral Waters; and on the Meteorology and the Medical Topography of different cantons and provinces of the kingdom. Among the memoirs which the Society has received on this last subject, it has distinguished five, to the authors of which, prizes have been decreed in the following order:

The first prize, a gold medal of the value of an hundred livres, has been decreed to M. Bagot, author of an Historical, Topographical, and Medical Description of the diocese of S. Brieux,

S. Brioux, where he resides. The four other prizes, each consisting of a gold medal of the value of a jeton d'or, have been adjudged to,
1. M. Coze, author of a Medical Topography of the province of Gascogne. 2. M. Moulenq, author of a Memoir on the Medical Topography of the city of Valence. 3. M. Carmoy, author of a Memoir on the Medical Topography of the city of Paray le Monial and its territory. 4. M. Luce, author of a Topographical and Medical Table of the city of Grasse, and of its Hospital.

The Society have also resolved to make honourable mention of the following memoirs on Medical Topography. 1. Of the city of Calais, by M. le Jau, physician there. 2. Of the town of Plombieres and its mineral waters, by M. Didelot, physician at Remiremont. 3. Of the city of Orange in Dauphiny, by M. Brar de la Coffaye, physician there. 4. Of Baune in Burgundy and its hospital, by M. Morelot, surgeon there. 5. Of the city of Lamballe and its environs, with a description of the endemic and epidemic diseases observed there, by M. de la Vergne.
6. Of

6. Of the city of Rosoy and its territory, by M. Bertin.

P R I Z E S P R O P O S E D.

THE Society proposes, as the subject of a prize of the value of six hundred livres, founded by the King, the following question :

Existe-t'il des inflammations lentes ou chroniques, dans le sens, où elles sont admises par Stoll et par quelques modernes ? Si elles existent, quels en sont les symptomes ; et quel doit en être le traitement ?

This prize will be delivered at the public assembly in 1791 ; and memoirs respecting it must be sent before the 1st of December 1790, addressed to M. Vicq d'Azyr, perpetual secretary of the Society, accompanied by a sealed billet, containing the name of the author, and marked with the same epigraphe as the memoir.

To this program is subjoined a table of all the subjects of prizes, lately proposed by the
Society,

Society, and not yet determined, with the ultimate period at which memoirs can be received.

1. A prize of twelve hundred livres, for the best solution of the following question.—Memoirs to be transmitted by the 1st of December 1789.

Determiner par l'examen comparé des propriétés physiques et chimiques, la nature de lait de femme, de vache, d'aneffe, de brebis, et de jument.

2. A prize of six hundred livres.—Memoirs to be sent by the 1st of December 1789.

Determiner, dans le traitement des maladies, pour lesquelles les differens exutoires sont indiqués; *1mo*, Quels sont les cas, ou l'on doit donner la preference à l'un d'eux sur les autres. *2do*, Dans quels cas on doit les appliquer, soit à la plus grande distance du siege de la maladie, soit sur les parties les plus voisines, soit sur le lieu même de la douleur.

3. A prize of six hundred livres.—Memoirs

moirs to be sent by the 1st of December 1789.

Determiner quels sont les inconveniens, et quels peuvent être les avantages de l'usage des purgatifs et de l'exposition à l'air frais dans les differens temps de la petite vérole inoculée, et jusqu' à quel point les resultats des recherches faites à ce sujet peuvent être appliqués au traitement de la petite vérole naturelle.

4. A prize of three hundred livres.—Memoirs to be sent by the 1st of December 1789.

Determiner, par une suite d'observations, quels sont les bons et mauvais effets qui resultent de l'usage des differentes especes de Son, considéré comme aliment, ou comme medicament, dans la medecine des animaux.

5. A prize of eight hundred livres.—Memoirs to be sent by the 1st of May 1790.

Determiner, 1^{mo}, S'il existe des maladies vraiment héréditaires, et quelles elles sont?

2do, S'il est au pouvoir de la médecine d'en empêcher le developement, ou de les guérir après qu'elles se sont déclarées ?

6. A prize of an indeterminate value, first proposed at the meeting on the 28th of August 1787, and afterwards on the 26th of August 1788.—Memoirs to be sent by the 1st of December 1789.

Donner des renseignements exacts sur la manière de faire rouir le chanvre et le lin ; indiquer s'il en résulte des inconvéniens pour la santé des hommes ou des animaux, et quels sont ces inconvéniens ; si l'eau, dans laquelle on a fait rouir du lin ou du chanvre contracté des qualités plus malfaisantes par leur macération que par celle des autres substances végétales ?

7. A prize of four hundred livres.—The period at which memoirs are to be sent is not fixed.

Déterminer quelles sont relativement à la température de la saison et à la nature du climat, les précautions à prendre pour conserver la santé d'une armée vers la fin

de l'hiver, et dans les premiers mois de la campagne ; à quelles maladies les troupes sont le plus exposées à cette époque, et quels sont les meilleurs moyens de traiter ou de prévenir ces maladies ?

8. A prize of six hundred livres.—Memoirs to be sent by the 1st of May 1790.

Determiner quelles sont les maladies dont le système des vaisseaux lymphatiques est le siège ; c'est-à-dire, dans lesquelles les glandes, les vaisseaux lymphatiques, et le fluide qu'ils contiennent, sont essentiellement affectés ; quels sont les symptômes qui les caractérisent, et les indications qu'elles offrent à remplir ?

9. A prize of six hundred livres.—Memoirs to be sent by the 1st of May 1790.

Rechercher quelles sont les causes de l'endurcissement du tissu cellulaire, auquel plusieurs enfans nouveaux-nés sont sujets ; et quel doit en être le traitement, soit préervatif, soit curatif ?

10. A prize of one thousand six hundred
livres.

livres.—Memoirs to be sent by the 1st of February 1790.

Determiner, par des observations, et par des experiences, quelle est la nature du vice qui attaque et ramollit les os dans le Rachitis ou le noueure ; et rechercher d'après cette connoissance acquise, si le traitement de cette maladie ne pourroit pas être perfectionné ?

All-memoirs competing for these prizes, must be addressed to M. Vicq d'Azyr, Perpetual Secretary to the Society, under the usual conditions.

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At a general meeting of the Royal Academy of Surgery of Paris, held on the 13th of April, Mr Louis, Perpetual Secretary, announced the distribution of the following prizes. The first gold medal was obtained by M. Desgranges, Member of the Royal College of Surgery at Lyons. The second, founded by Mr Vermond,

for improving the Obstetric Art, by M. Mauffion, Chief Surgeon to the Hotel-dieu at Orleans. That of Emulation, by M. Currerier, Chief Surgeon to the Hospital of Bicêtre. And five medals, of one hundred livres each, to M. M. Mangé, Professor of Midwifery at Rennes; Mirault, Chief Surgeon to the Hotel-dieu at Angers; Yfabéau, Lieutenant to the King's First Surgeon at Gien; Boner, Surgeon at Nerac; and Denys, Surgeon-major to the Civil and Military Hospital at Commercy.—The prize-question proposed by the Academy for 1791, is, To determine the materials and form proper for cauterizing instruments, known by the name of Actual Cauteries; to lay down rules and cautions for using them, with respect to the different parts to which they may be applied; and to point out in what cases their application may be deemed necessary and beneficial.—Memoirs must be sent by the 1st of January 1791.

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The Abbé Reynal, so justly celebrated all over Europe for extensive literature, being desirous of appropriating some part of that fortune which he has acquired by his abilities, in calling forth the exertions of others, has presented to the Royal Academy of Inscriptions and Belles Lettres at Paris, a perpetual annuity of 1200 livres, for a prize-question on any subject which the Academy may think proper to propose. They have begun this institution by proposing the following question :

What were the precautions taken by the Greeks and Romans for regulating the police, and promoting the salubrity of cities ? With an inquiry, Whether we can derive any benefit from the hints which they have left us on these subjects ?

Memoirs on this question must be transmitted to the Secretary by the 1st of July 1790.

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The Imperial and Royal Academy of Sciences and Belles Lettres at Bruffels, have conferred a prize on M. Wanters, Physician at Wetteren near Ghent, for the best solution of the following question :

What indigenous vegetables will yield oil which may be used instead of that of olives ?—How is such oil to be prepared and preserved ?—And at what rate might it be afforded, supposing the substance from which it is drawn to be purchased at a given price ?

The accessit was adjudged to Mr J. B. Vanden Sande, Apothecary and Chemist at Bruffels.

The same Society have proposed the following question :

What plants are there, growing spontaneously in the Austrian Netherlands, which have not been mentioned by any ancient

ancient or modern botanical writer of those provinces, or of the neighbouring countries?

The prize is a gold medal, about the value of twelve pounds Sterling.—Memoirs written either in the Latin, French, or Flemish languages, must be sent to M. l'Abbé Mann, Perpetual Secretary, before the 16th of July 1790.

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The Philosophical Society of Zealand and Flushing proposed, as the subject of a prize-question, an inquiry respecting the diseases of the negroes in the Dutch West-India colonies.—As one paper only was sent to the Society, and as that paper was deemed unsatisfactory, the question is again proposed.—Memoirs must be transmitted either to M. Dryfhoul, Minister at Middleburg, or to M. H. Van Royen, Rector of the Latin School at Flushing, Secretaries to the Society.

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The Philosophical Society of Haarlem have proposed, as the subject of a prize-question, an inquiry concerning the present state of medicine and surgery among the Eastern Nations, particularly the Chinese;—to be answered by the 1st of November 1789 :—And an inquiry concerning the efficacy of poppy as a prophylactic and remedy in the dry flux, occasioned by infection.—To be answered by the 1st of November 1790.

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The Physical Society of Haarlem have proposed the following prize-question.—Memoirs to be transmitted by the 1st of November 1790:

What

What are the utility and advantages of experimental philosophy, both to the public and to those who cultivate it?—What lights does it throw on other useful sciences?—How may a more general study of it be excited and facilitated?—And what inquiries may be undertaken, with a well-founded hope of improving the science of natural philosophy, and enriching it with new and interesting discoveries?

The prize is a gold medal, value 400 florins, near 37 l.—The papers may be written in Latin, French, or Dutch; and must be transmitted to the Secretary by the 1st of April 1790.

The Haarlem Society have also proposed a question, with respect to the theory of Dr Crawford concerning heat and fire; for the 1st of November 1791.

Twenty-

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Twenty-four different essays were transmitted to the Imperial Academy of Sciences at Petersburg, on their question, respecting the powers by which the distribution of fluids is effected in plants, and in the nails, hairs and horns of animals. . None of them, however, were perfectly satisfactory. But two were thought worthy of dividing the prize; the one was found to be written by J. F. Blumenbach, professor of physiology at Gottingen, the other by C. F. Born, professor of surgery at Cronstadt.

The following question is proposed for a prize of one hundred ducats, for the year 1790.

Of what nature is the colouring matter?

Was it rightly termed *sulphur* by the ancient chemists? In what does it resemble, or in what does it differ, from common sulphur? Does it more properly belong

to any other species of mixed bodies, compounded like that of phlogiston, and a saline matter? or is it a substance *sui generis*? 2. Of what nature is that saline matter by which the phlogiston is fixed? Is it acid, alkaline, or neutral? If, as is most probable, it be acid, What is the acid by which phlogiston, being fixed, becomes particularly adapted for dissolving the rays of light, or, which is the same thing, producing colours? 3. Of what kind is that earth which is particularly requisite for receiving phlogiston when fixed with its saline matter? 4. Whence arises the diversity of colour? Is it from the different mixture of the same elements of the colouring substance; from the different proportion of the phlogiston to the fixing saline matter; or rather, since phlogiston appears to be one and the same thing in all the three kingdoms, Is it from the difference of the fixing saline matter solely, or is it from the difference of the earth which receives it? 5. Finally, What saline matter, or what mixture of phlogiston with saline matter,

is

is required to produce a red colour; what a blue, what a green, &c.? for even this discovery the Academy thinks within the reach of the human mind, and to be attained by means of judicious and properly varied experiments. The memoirs on this subject may be written in the Russian, Latin, German, or French languages, and must be transmitted to the Society by the 1st of December 1790.

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The Royal Academy of Sciences at Lisbon, have proposed the following prize-question for 1791.

What is the easiest and best method of separating the alkaline base from common salt, so that it may be perfectly freed from acid, and fit for the use of manufactures?

The prize is a gold medal, value 14l.—Memoirs must be sent to the secretary of the academy by the 1st of June 1791.

The

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The Medical Society at Amsterdam have received no satisfactory answer to their question, respecting the disorders most difficult to be ascertained, both at their commencement and during their progress. They think, however, that some regard is due to three dissertations; one of which had for its motto, *Amicus Plato, amicus Socrates, sed magis amica veritas*; another, *Terar dum prosum*; and the third, *Nihil temere, nihil frustra*. The Society, therefore, invite these writers to review, polish, and correct their dissertations, within the space of three months; and they have proposed the following question for the 1st of May 1790.

Has the internal use of the Flores Zinci hitherto answered, or exceeded, the expectations of the celebrated Gaubius, who first gave encouragement to its use? If it has exceeded them, in how far, and in what respects? Have any useful discoveries

veries or experiments been made, with respect to the method of using this medicine, its properties, the manner of prescribing it, whether mixed with other medicines, or dissolved in any chemical liquor, or otherwise?

Memoirs must be transmitted to Petrus Conradi, bookseller at Amsterdam.

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The Philadelphian Society at Cape François, have proposed the following question for 1790. The prize is a gold medal; and memoirs must be addressed to M. Arthaud, Secrétaire perpetuel de Circle de Philadelphes.

What are the signs by which the convulsions, death, inflammatory or gangrenous state and ulcerations and erosions produced in the stomach and intestines, by worms, or other morbid causes, may be distinguished from the convulsions, death, inflammation or erosions produced by different kinds of poisons?

At

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At the last annual meeting of the Medical Society of London, held on Monday the 9th of March, at their house in Bolt-Court, Fleet-Street, the President, Dr Sims, in a speech adapted to the occasion, gave a short history of what had been done by the Society since the last anniversary meeting; and announced the decisions of the Society relative to the adjudications of the honorary medals of the present year; which were as follow:

The silver medal, appropriated for the best essay written within the year by a Fellow of the Society, to Mr Henry Fearon, Surgeon, for his Dissertation on Cancers. And the other silver medal, annually given for the best memoir by any corresponding member or stranger, to Dr Percival of Manchester, Corresponding Member, for his paper on the solvent power of Camphor, and his memoir intituled, Miscellaneous Observations, &c.

Honorary

Honorary silver medals were also awarded to Mr Thomas Pole, Surgeon, and to Dr Benjamin Rush of Philadelphia, Corresponding Members, for their valuable communications, and their assiduity in promoting the interest of the Society.

No satisfactory answer having been given to the question proposed as the subject of the prize-essays for the Fothergillian medal of the present year, viz. What circumstances accelerate, retard, or prevent the progress of infection? the question lies over until next year; when dissertations on that question, from any person who may choose to become candidates for the medal, will again be received.

The Fothergillian medal of next year, will be adjudged to the author of the best account, classification and cure of cutaneous diseases:— And that for 1791 is, What diseases are most prevalent in great towns? and what are the best methods of preventing them? To which must be added, A history of the epidemic constitution for at least one whole year.

The

The Society then proceeded to the choice of the officers and council for the ensuing year, when, on examining the ballots, the following gentlemen were duly elected:—President, Dr James Sims—Treasurer, Dr Lettson—Librarian, Mr Hurlock, junior—Secretaries, Mr Chamberlaine and Mr Ridout—Secretary for foreign correspondence, Dr Bancroft.

COMMITTEES.

1. Theory and Practice of Physic—Drs Ash, Combe, Ferris, M'Namara Hayes, Myers.
2. Anatomy and Physiology—Messrs Forster, Haighton, Turnbull, M'Evoy, Young.
3. Surgery—Messrs Fearon, Norris, Simpson, Ware, Wadd.
4. Midwifery—Drs Dennison, Squire, Hooper,—Messrs Pole, Steele.
5. Materia Medica and Pharmacy—Messrs Parkinson, Hooper, Dymond, Champney, Bureau.
6. Botany and Natural History—Messrs Church, Houlston, Jameson, Samwell, Witham.

7. Natural Philosophy, and Chemistry—Messrs
Baker, Field, Jackson, Walfshman,
Webb.

Anniversary Oration for the year 1790—
Dr Wallis.

A very elegant Latin oration was then delivered by Dr Dennison; which concluded the meeting.

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The annual prize-medal given at the Lyceum Medicum of London for 1789, has been adjudged to Mr James Moore surgeon, for his Dissertation on the process of nature in the healing of wounds.

We

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We formerly mentioned, that the Harveian Society of Edinburgh had proposed, as the subject of their prize-question for 1788, An experimental enquiry concerning the nature and properties of the *Nicotiana Tabaccum* of Linnæus; into the different active constituent parts of this vegetable, their effects on the human body, and their use in the cure of diseases? Dissertations on this subject were directed to have been transmitted to the Secretaries, by the first of January 1789; but nothing of sufficient merit having been received, the same question is again proposed for the year 1790. The dissertations of competitors must be transmitted to the Secretaries by the first of January 1791.

The subject proposed by the Harveian Society for the year 1789, was, An enquiry into the nature and properties of those medi-

cal products which are obtained from a combination of ardent spirit with acids? Dissertations on this subject, must be transmitted, under the usual conditions, to Drs Duncan or Webster, by the first of January 1790.

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Dr Cullen, to whose industry and genius, as a medical practitioner, teacher, and author, the public have been highly indebted, still continues his exertions, with indefatigable zeal. He is at present engaged in preparing for the press, a fifth volume of his *First Lines of the Practice of Physic*, which will probably be published in no long time.

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A second volume of the Transactions of the Royal Society of Edinburgh, has been in the press for a considerable time past, and is now so far advanced, that, in all probability, it will appear at an early period in the course of the ensuing year.

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M. Fourcroy of Paris, lately published in that city, a new edition, in five volumes octavo, of his work, intituled, “ Elémens d’Histoire
“ Naturelle et de Chimie, troisieme edition,
“ par M. de Fourcroy, Docteur en Medicine
“ de la Faculté de Paris,” &c. In this edition, he has greatly altered and improved the plan of his work. He has exhibited a much

more accurate comparative view of the Phlogistic and Antiphlogistic Theories; and, in consequence of having embraced the latter of these theories, he has adopted a new nomenclature, formed upon its principles by him and some other respectable French chemists. As soon as this new edition appeared, Mr Elliot bookseller in Edinburgh, who had published a translation of the first edition, engaged an ingenious gentleman, well versed in chemical science, to put this edition also into an English dress. This work has been in the press for some time past, and a considerable part of it is now printed off; so that, in all probability, it will be published in a short time.

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Mr Robert Kerr surgeon in Edinburgh, and a member of the Royal and Antiquarian Societies in that city, is engaged in publishing a translation of another very important chemical
work

work from the French : “ *Traité élémentaire*
 “ *de Chimie, présenté dans un ordre nouveau,*
 “ *et d’après les découvertes modernes, avec*
 “ *figures, par M. Lavoisier de l’Académie*
 “ *des Sciences,*” &c. In this work, M. Lavoisier endeavours to explain and support the antiphlogistic system, which owes its origin to him ; and as the work combines, in an eminent degree, brevity, perspicuity, and elegance, it can hardly fail to be highly acceptable to the chemical reader, who wishes to see the elements of the science unfolded, on the principles of the new doctrine. But it contains also a full system of philosophic chemistry, and gives a complete account, illustrated with copper-plates, of every instrument and apparatus necessary in pneumatic chemistry.

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While these works, tending to support the New System, as it is called, have lately appeared

peared in the French language, and will soon appear in English, we may also hope in a short time to be favoured with another important chemical work, in which a different doctrine is supported. We mentioned in our last volume, that Mr Keir of Birmingham, a gentleman well known to the chemical world, was engaged in publishing a new edition of the Dictionary of Chemistry which he formerly translated from the work of M. Macquer, but with such alterations and additions, that it might justly be considered as a new work. The first part of this valuable work will soon appear; and a preface is affixed to it, containing animadversions on the Antiphlogistic system and the new French nomenclature. If that doctrine has very powerful supporters in Messrs Lavoisier and Fourcroy, it has also, it must be allowed, a very able opponent in Mr Keir. And he whose aim it is to arrive at truth, must candidly examine the writings on both sides.

We

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We have already repeatedly mentioned, in former volumes, a work which has been for some time in the press at Edinburgh, under the title of *The Philosophy of Natural History*. Mr Smellie, the author of that work, is already favourably known to the public by his translation of the Count de Buffon's *Natural History*. But from his numerous engagements in other lines, the publication has been retarded much longer than there was at first reason to imagine. This work, however, which will be comprised in one large volume in quarto, is now almost entirely printed off, and will certainly appear at an early period of the ensuing year.

The

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The publishers of the new edition of the *Encyclopædia Britannica*, continue with great punctuality to fulfil their engagements with the public. They have already completed their fourth volume, which, however, extends only to the beginning of the article *Chemistry*; an evident proof of the very large, and we apprehend we may with justice affirm, important additions which have taken place. Such has been the satisfaction afforded by their work, in its new form, to intelligent readers, and such the character it has acquired, that although they began by throwing off a very large impression, they soon found it necessary to reprint both the first and second volumes, and to increase the impression of the succeeding ones.

Mr

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Mr Andrew Bell of Edinburgh, engraver to his Royal Highness the Prince of Wales for Scotland, though at present a great part of his time be occupied with the new edition of the *Encyclopædia Britannica*, has yet been able to make some progress with his system of *Anatomical Plates*; and his fourth part, containing the plates of the skin, brain, organs of senses, &c. will, it is highly probable, be published early in the ensuing year.

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We mentioned in our last volume the intended publication of a *Flora Edinburgensis*, by Mr Malcolm M'Coig, gardener to the Royal Botanical Garden at Edinburgh. But we are
sorry

sorry to say, that in consequence of the premature death of that ingenious and industrious young man, it is now a very doubtful matter whether this publication will ever appear. For his manuscripts are left in such a condition, that it would require very great labour from any other person, before they could be brought to such a state as to be fit to be put into the hands of a printer.

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A new edition of a work which has justly obtained much reputation on the continent of Europe, will soon appear at Edinburgh, under the following title :—*Ferdinandi Leber prælectiones anatomicæ, editio nova, cui nunc primum accesserunt observationes quædam physiologicæ et anatomicæ, curante J. Wilson, M. D.*

Dr

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Dr Ibbeken has advertised in the shops of the booksellers of Edinburgh, an intention of publishing by subscription, a work under the title of Letters Medical and Familiar to a Noble Family, which, from the encouragement he seems to have received in this undertaking, will probably soon be put to the press.

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Dr Francis Balfour, lately in the service of the honourable the East India Company, for whose ingenious essay on the influence of the moon in fevers, we may refer our readers to a former volume of these * Commentaries, has

* Vol. IX. Decade I. page 147.

has lately returned to his native country, and has occupied the leisure of his voyage in preparing for publication a great number of important observations on the same subject, which he has had an opportunity of making in different parts of India, particularly in the kingdom of Bengal, during a residence for twenty years in that country.

As on this subject a just conclusion can be formed only from a candid examination of facts, we shall not attempt to anticipate the judgment of our readers, by saying any thing with respect to it. Nor will we pretend to determine whether the lunar influence in fevers not being observed in this country, is to be attributed to its agency being here counteracted by other causes, or to the inattention of practitioners. We may only observe, that in this intended publication, Dr Balfour has given a very satisfactory answer to the objections which have been made to his doctrine by Dr Lind and others, who allow the lunar influence, but attribute it to the effect of the tides upon the neighbouring shore. This hypothesis can never be adopted, when it is considered,

sidered, that the greater part of Dr Balfour's observations were made at Lucknow, Banerres, and other places, many hundred miles distant from the sea, and totally removed from the influence of any tides.

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The treatise on the small-pox by Dr Robert Walker of Edinburgh, which we mentioned in our last volume, has been for a considerable time past in the press, and is now nearly printed off. The publication of it, therefore, will probably take place in a short time.

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A new edition of Dr Blane's Observations on the Diseases of Seamen will soon be published.

lished. In this edition, the author proposes to subjoin to the third part, by way of appendix, a list of the remedies best suited for the practice of medicine at sea, and the quantities of each with which he thinks it necessary that a ship should be provided, in proportion to the number of men that she carries. He means also to add a set of convenient formulæ, for the direction of young practitioners at sea. And, from his well known experience and abilities, we have no doubt that his hints on both these subjects will be highly useful to those for whom they are particularly intended.

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The College of Physicians of Philadelphia, of whose institution we gave an account in a former volume * of this work, have, in pursuance of the great object for which they were associated,

* Vol. II. Decade II. page 387.

affociated, the advancement of the science of Medicine, as a means of lessening human misery, been assiduously engaged in collecting for publication, important medical observations. And we are informed, that a first volume of their Transactions will soon appear. Among other papers contained in this intended publication, there is, we are told, one by a celebrated Black physician at New Orleans, containing many excellent and useful observations on the putrid fore-throat.

* * *

Dr James Edward Smith of London, who purchased the library and museum of Linnæus, has been for some time engaged in preparing for publication accurate descriptions of rare plants, selected from the Herbarium Linnæanum. This work is to be published in fasciculi, with plates executed by artists conversant in botany. Many of these plants

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have never yet been described, and some of them constitute new genera.

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Professor Scarpa of Padua is said to have made an interesting discovery concerning the organ of hearing in man, which he has confirmed and illustrated by the comparative anatomy of that organ in fishes, birds, and reptiles. He proposes soon to publish a work on that subject, under the title of *Anatomicæ Disquisitiones de Auditu et Olfactu*; which is said to contain many minute, physical, and physiological observations on these senses.

* * * *

Mr de la Haye has published at Cape François, a prospectus of a work, intituled, Florindie,

Florindie, ou Histoire physico economique des vegetaux de la Torride, &c. This work will contain an history of the plants of St Domingo, under names relative to their uses; their nomenclature and synonimes; their generic names; a methodical description of their parts; an account of the places where they grow; the seasons in which they flower and fructify; their culture, properties, &c. Each genus will form a separate treatise, ornamented with a frontispiece, exhibiting the name of the class, order and family, to which it belongs. Each volume, of a large quarto size, will contain upwards of three hundred pages, and from thirty to fifty plates, and will be sold to subscribers at the price of two pounds fifteen shillings. The number of volumes to which this work will extend, cannot yet be ascertained.

* * * *

Dr William Woodville of London has published a prospectus of a Botanical Repository, giving an account of a design he has formed of rendering a knowledge of the vegetable world, through the medium of copper-plate impressions, more generally accessible, by reducing the price so far that they may be purchased at a moderate rate. He intends to begin with giving figures of the medicinal plants, particularly those of the London and Edinburgh Dispensatories. Six plates, accurately engraved, will be published on the first of January 1790, and continued regularly every month, till the whole vegetable Materia Medica be completed, accompanied with the necessary letter-press, in which each plant will be noticed as to its name, class, order, general description, &c. Each number, including six plates and letter-press, will be sold for one shilling :

shilling : And those desirous of purchasing the work, who wish to have early impressions, are requested to send their names to Dr Woodville, Bartholomew-lane, London.

* * * *

It has long been a matter of much and just regret, that many of the buildings appropriated to the purposes of literature in the University of Edinburgh, are not only contemptible in their external appearance, but highly inconvenient in their internal structure. From these circumstances, the building of a new College at Edinburgh has often been talked of as a very desirable measure. We are happy in being able to inform our readers, that a serious effort is now to be made for this purpose.

The present chief magistrate of Edinburgh, the right honourable Thomas Elder, Esq; of Forneth, whose character for activity and public spirit has long been established among his

fellow-citizens, has this object very much at heart. In consequence of his exertions, and with the almost unanimous approbation of those interested in the business, a plan for the building of a new College has not only been fixed upon, but the foundation-stone was actually laid on the 16th of November last by the Right Honourable Francis, Lord Napier, present Grand Master Mason of Scotland, the lineal representative of the immortal Napier of Merchiston, the inventor of the Logarithms; which, if we attend to its importance in navigation and other arts, may perhaps be considered as the most useful scientific discovery that has been made since the creation of the world.

Lord Napier, on this occasion, was attended by upwards of a thousand of the brethren, among whom were several of the most eminent characters in Scotland; his Grace the Duke of Buccleugh, and many others of the first nobility and gentry having joined in this masonic procession. The procession was also attended by the Lord Provost and Magistrates in their robes; by the Principal and Professors of the University in their gowns;

gowns; and by a numerous body of students, distinguished by laurels in their hats. Many of the students indeed, particularly of the students of medicine, declined to join the procession, having taken offence at the late period at which an invitation was given them, and some other circumstances. But we may with confidence assert, that all of them unite in wishing success to this undertaking. And we doubt not that they will be still more ready to demonstrate gratitude to their Alma Mater for real services, than they have been to shew resentment at the conduct of some of their elder brethren, for what at the utmost could only be considered as an unintended affront.

The plan of the New College is designed by that ingenious artist Robert Adam, Esq; of London, a native of the city of Edinburgh, and an élève of its University: and it is, we believe, one of the greatest efforts of his genius. It unites, in an eminent degree, both elegance and convenience, and will afford to the teachers and to the students, in every branch of literature, many advantages which they have not hitherto enjoyed.

It may, however, be readily concluded, that this building cannot be executed, but at an expence to which the funds hitherto appropriated to the College of Edinburgh are totally inadequate : aid therefore must necessarily be sought for from other quarters ; and it is expected, with some degree of confidence, that a very considerable sum may be raised in the way of voluntary subscription. By even small contributions from great numbers, much may be done : And it is expected, that not only all ranks in the city of Edinburgh will chearfully contribute in proportion to their abilities, but that subscriptions to a work of such general national utility, will also be obtained from every part of the British dominions. For every lover of science is a citizen of the world. It is particularly expected, that those who have been educated at the University of Edinburgh, of whom great numbers are now settled, especially in the medical line, in every quarter of the world, will not only contribute to this undertaking themselves, but with activity exert their endeavours in promoting the subscription among others.

During

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During the course of the year 1789, Dr Charles Stuart, Dr Alexander Hamilton, Dr Alexander Grant Clugston, Dr John Craigie, Dr Charles Webster, Dr Charles Congalton, Dr Thomas Gillies, and Dr James Clark, have been admitted fellows of the Royal College of Physicians of Edinburgh.

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Dr Andrew Inglis was admitted a member of the Royal College of Surgeons at Edinburgh, on the 10th of August 1789.

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The following gentlemen have been admitted members of the Royal Society of Edinburgh, during the course of the year 1789 :

Dr

Dr Bartholomew Parr, of Exeter.

Dr John Drummond, of Jamaica.

Mr Guyot, of Paris.

Mr Jefferson, minister plenipotentiary from
the States of America, at Paris.

General Robert Melville.

Reverend Dr John Ogilvie, of Midmar.

John Thomas Stanley, Esq; of Alderby in
Cheshire.

Dr Henry Engelhart, professor of the
Practice of Medicine at Lund in Swe-
den.

Dr Joachim Ramm, of Riga.

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Dr Thomas Hope, whom we mentioned in
our last volume, as being appointed lecturer
on chemistry in the university of Glasgow, has
been nominated by his Majesty to be pro-
fessor of medicine in that university, in con-
junction with his uncle Dr Alexander Steven-
son, who has long held that office.

Dr

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Dr John Henry Engelhart, a native of Gottenburg, who, in the course of his medical studies, passed several years at Edinburgh, London, and Paris, and in the former of these places distinguished himself so much as to be elected a president both of the Royal Medical, and Physical Societies, was, on the 7th of December 1788, appointed professor of the practice of medicine in the University of Lund in Sweden, in the room of Dr Rosenbald who had resigned. Dr Engelhart was originally a pupil at Lund, and had obtained a degree in medicine there, before he set out on his travels to acquire medical knowledge in other countries.

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On the 7th of May 1788, died Jo. Antony Scopoli, a celebrated professor at Pavia. He was born in the year 1723, at a village in
the

the principality of Triente. His father, Francis Antony Scopoli, was a military commissary to the Prince Bishop; and his mother, Claudia Catharina Gramola, was descended from a patrician family in the same province. For some years, he was educated in his father's house; after which, he was committed to the care of his uncle Antony Gramola, from whom he received instructions in rhetoric and philosophy till he arrived at the sixteenth year of his age.

In the year 1740, he went to the University of Inspruck, for the purpose of studying medicine; and having passed three years there, he obtained degrees both in philosophy and medicine. After this, returning to his native country, he practised medicine for some months in the hospital at Triente. But, by his own entreaties, he prevailed upon his father to allow him to pass some years at Venice, that he might attend to the practice of medicine under a celebrated and very deserving physician, Lothario Lotti. Here a desire of studying pharmacy and natural history, to which he had before been much attached, was rekindled: He increased his knowledge of plants in the botanical gardens there,

there, and cultivated, with great success, other branches of natural history.

After again returning home, he searched with particular attention the neighbouring mountains, especially those of Carniolia, accurately examining the animals, plants, and minerals, which they contained; and of his studies in these particulars, his *Flora* and *Entomologia Carniolica* afford the strongest evidence. He soon after this formed the intention of visiting Vienna, that he might obtain the privilege of practising medicine in the Austrian dominions. At Vienna he underwent a rigorous examination, with great applause; and defended a dissertation concerning a new method of distributing plants into classes. The illustrious Van Swieten, captivated with his abilities, would have procured for him an appointment at the Hungarian mines; but he refused it, being rather desirous of indulging his genius, and of making collections in the way of natural history; and he now dedicated his whole time to the study of natural history, chemistry, and agriculture. By visiting different parts of the Austrian territories, he collected many excellent observations on these subjects. Thus qualified,

qualified, he was appointed professor of botany and chemistry at Vienna, in the year 1765, in the room of Nicolas de Jaquin, who was appointed professor of metallurgy at Schemnitz in Hungary. Besides teaching with great industry, he published several treatises on the art of making charcoal, on metals, &c.

After this he travelled over Lower Hungary, with the view of illustrating its natural history; and upon his return in the year 1776, a newly-instituted professorship of natural history at Pavia, with the direction of the botanical garden there, was conferred upon him. The duties of these offices he continued to exercise till his death. In numerous publications, some of which are written in the Latin, some in the German, and some in the Italian language, he has left behind him monuments of his abilities. Without entering into a full enumeration of these, we may mention as examples, his *Methodus Plantarum*; *Flora Carniolica*; *Entomologia Carniolica*; *Anni Historico-Naturales*; *Differtationes ad Scientiam Naturalem pertinentes*; *Elementi di Chimica e di Farmacia*: and his last work, of which, part only was published at the time of his death,

death, *Deliciæ Floræ et Faunæ Insulariæ*. These, and a variety of other publications, abundantly demonstrate how much natural history, in all its branches, has been indebted to his exertions.

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Dr Jo. Fr. Theoph. Goldhagen professor of metallurgy at Halle, lately died there, in the forty-fifth year of his age; and on the 19th of January 1788, Dr G. Math. Gattenhof, professor of medicine and botany at Heidelberg, in the sixty-sixth year of his age.

Dr Tomlinson, senior, physician to Guy's hospital, and well known to the medical world by his *Medical Miscellanies*, or collection of tracts and commentaries, died lately in London. He was succeeded in his office of physician to the hospital by Dr Thomas Skeete, a very learned and ingenious young physician, of whose name we have frequently had occasion to make honourable mention in this work. But Dr Skeete enjoyed that office only for
a very

a very short time ; for all the flattering expectations which his friends had formed from his early exertions, were terminated by his death, which took place not long after his election.

Dr Ernest. Gottlob. Bossius, a celebrated professor of the practice of medicine at Leipzig, lately died there, in the sixty-fifth year of his age.

Dr Carolus de Mertens, justly celebrated by several useful publications, died lately at Vienna, in the fifty-first year of his age.

The medical world have also been lately deprived of two other very eminent characters, Dr Peter Camper, formerly professor at Amsterdam ; and Dr J. M. de Laffone, late archiater to the French king ; of both of whom, we hope to be able to give our readers some account in a future volume.

State

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State of the thermometer, barometer, and rain, from the 1st of July 1788, to the 1st of July 1789, being the result of observations made about a mile from the city of Edinburgh.

Months.	Thermometer.			Barometer.			Rain.
	High.	Low.	Med. at mid-day	High.	Low.	Med.	
1788.							
July	72	45	63	30.07	29.35	29.72	2.63
Aug.	76	43	65	30.35	29.12	29.79	1.17
Sept.	66	34	59	30.07	29.00	29.65	3.27
Oct.	61	29	56	30.65	29.49	29.93	0.41
Nov.	55	29	46	30.15	28.73	29.75	1.02
Dec.	44	14	33	30.07	28.37	29.71	1.18
1789.							
Jan.	51	12	35	30.56	28.55	29.43	4.75
Feb.	51	29	40	29.95	28.27	29.30	1.02
Mar.	47	21	39	29.97	28.82	29.40	1.20
April	64	30	49	29.84	28.09	29.45	1.10
May	69	32	57	29.97	29.08	29.60	1.10
June	78	48	60	30	29.06	29.65	1.15
For 12 months]	78	12	50.1	30.75	28.09	29.61	20.11

The remarkable dryness of the year 1788, has been such, as not only to claim the attention of ordinary observers, but even to call forth the observations of philosophers, as will appear from a paper by the Reverend Mr Hutchinson, in the Philosophical Transactions. From the re-

gifter inserted in our last volume, it will appear, that the rain which fell in the first six months of the year, amounted only to nine inches seventy-four hundredth parts; so that the rain in 1788 at Edinburgh was only 20.16. But even this was considerably more than the rain at London, which, as appears from the following register, was not fifteen inches.

State of the thermometer, barometer, and rain at London for the year 1788, extracted from the Philosophical Transactions, Vol. LXXIX, for the year 1789, Part I.

	THERMOMETER.			BAROMETER.			RAIN.
	High.	Low.	Med.	High.	Low.	Med.	
Jan.	48	26	39.7	30.70	28.89	29.97	0.439
Feb.	50	29	41.3	30.21	28.65	29.68	1.146
Mar.	59	28	40.8	30.08	29.32	29.68	0.336
April	68	40	52.6	30.48	29.50	30.07	0.607
May.	80	49	60.0	30.34	29.58	30.04	0.497
June.	80	52	62.3	30.22	29.49	29.94	3.275
July.	77	55	63.7	30.22	29.73	29.99	1.620
Aug.	77	53	63.4	30.45	29.22	29.95	2.699
Sept.	74	45	58.6	30.25	29.37	29.86	3.345
Oct.	67	33	51.4	30.55	29.64	30.32	0.103
Nov.	58	27	42.9	30.50	29.61	30.11	0.510
Dec.	46	18	30.9	30.33	29.50	29.92	0.000
For the Year.	80	18	50.6	30.70	28.65	29.96	14.892

Mr

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Mr John M'Nab, at Fort Albany in Hudson's Bay, who has already, oftener than once, favoured us with observations on the temperature of that climate, has sent us the following account of the mean state of the thermometer, observed at seven in the morning.

1788.	October	-	+29
	November	-	+18
	December	-	+10
1789.	January	-	— 9
	February	-	— 11
	March	-	+ 4
	April	-	+23
	May	-	+36

S E C T . IV.

List of New Books.

A TREATISE of the Materia Medica. By William Cullen, M. D. Professor of the Practice of Physic in the University of Edinburgh, First Physician to his Majesty for Scotland, Fellow of the Royal College of Physicians of Edinburgh, of the Royal Societies of London and of Edinburgh, of the Royal Society of Medicine of Paris, of the Royal College of Physicians of Madrid, of the American Philosophical Society of Philadelphia, of the Medical Society of Copenhagen, of the Medical Society

Society of Dublin, and of the Royal Medical and Royal Physico-Medical Societies of Edinburgh. 2 vols. 4to, Edinburgh.

The first part of a dictionary of chemistry. By James Keir, Esq; F. R. S. Lond. and F. A. S. Sc. 4to, Birmingham.

Speculations on the mode and appearances of impregnation in the human female, with an examination of the present theories of generation. By a Physician. 8vo, Edinburgh.

A treatise on the prevention of diseases incidental to horses from bad management in regard to stables, food, water, air, and exercise. To which are subjoined, observations on some of the surgical and medical branches of farriery. By John Clark, Farrier to his Majesty for Scotland. 8vo, Edinburgh.

The works of the late John Gregory, M. D. 4 vols. 8vo, Edinburgh.

Considerations on bilious diseases, and some particular affections of the liver and gall-bladder. By John Andree, M. D. 8vo, Hertford.

An essay on the causes of the variety of complexion and figure in the human species; to which are added, strictures on Lord Kaimes's discourse on the original diversity of mankind.

By the Rev. Samuel Stanhope Smith, D. D. Vice President and Professor of Moral Philosophy in the College of New Jersey. A new edition, with additions, by way of notes. By a Gentleman of the University of Edinburgh. 8vo, Edinburgh.

Letters to Sir Joseph Banks, Bart. President of the Royal Society, on the subject of the cochineal insects discovered at Madras. By James Anderson, M. D. With engravings. 8vo, Madras.

Critical introduction to the study of fevers, read at the College of Physicians. By Francis Riollay, M. D. Fellow of the College. 8vo, London.

Bath waters;—a conjectural idea of their nature and qualities, in three letters to ——. To which are added, putridity and infection unjustly imputed to fevers,—a cruel public grievance attempted to be redressed; with some account of the nature and management of plain fevers. By A. W. M. D. Reg. Col. Med. Ed. Soc. 8vo, London.

An essay on the epidemic disease of lying-in women of the years 1787 and 1788. By John Clarke, Licentiate in Midwifery of the Royal College

College of Physicians, and Teacher of Midwifery in London. 4to, London.

The elements of medicine, translated from the *Elementa Medicinæ Brunonis*; with large notes, illustrations, and comments. By John Brown, M. D. author of the original work. 2 vols. 8vo, London.

Observations on the medical practice of Dr Brown; or an enquiry into the abuse of stimulants in fevers. 8vo, London.

The medical reform; containing a plan for the establishment of a medical court of judicature, to correct the abuses of the practice of physic in all its branches,—and a medical college, to give full instruction to youth intended as surgeons for the Navy or Army, without expence to the nation, or oppression to individuals: Being a letter to the Right Honourable William Pitt, Chancellor of the Exchequer. 8vo, London.

Practical dissertations on nervous complaints and other diseases incident to the human body; with an historical investigation of their causes and cure; in which are interspersed some singular cases. By M. Neale, late Surgeon of

his Majesty's fifth regiment of Infantry. 8vo, London.

First lines of the theory and practice of philosophical chemistry. By John Berkenhout, M. D. 8vo, London.

An essay on the nature and origin of contagious fevers. By John Alderson, M. D. Member of the Royal Medical Society of Edinburgh. 8vo, London.

Thoughts on cancer of the breast. By George Bell, Surgeon at Redditch. 8vo, London.

An essay on the recovery of the apparently dead. By Charles Kite, Member of the Corporation of Surgeons in London, and Surgeon at Gravesend in Kent; being the essay to which the Humane Society's medal was adjudged. To which is prefixed Dr Lettsom's address on the delivery of the medal. 8vo, London.

An essay on the rupture called Hydrocele; explaining the anatomy of the parts affected, with objections to the incision, seton, &c. In which is communicated an improved method of radically curing that disorder with more certainty and less pain. By Benjamin Hum-
page,

page, Surgeon, and Member of the Corporation of Surgeons, London. 8vo, London.

The works of Thomas Sydenham, M. D. on acute and chronic diseases; wherein their histories and mode of cure, as recited by him, are delivered with accuracy and perspicuity. To which are subjoined, notes corrective and explanatory, from the most eminent medical writers. By George Wallis, M. D. 2 vols. 8vo, London.

A treatise on diluents, and an enquiry into the diseases of the fluids of the human body, to ascertain the operation of diluents upon them. To which are prefixed, Observations on common water, so far as it respects the subject of attenuants. By Thomas Jamefon, Surgeon of his Majesty's Navy. 8vo, London.

Observations on the rupture of the gravid uterus, with the sequel of Mrs Manning's case. By Andrew Douglas, M. D. Member of the College of Physicians, London, and Consulting Physician to the Lying-in Charity. 8vo, London.

The œconomy of health; or a medical essay containing new and familiar instructions
for

for the attainment of health, happiness, and longevity. By Andrew Harper, late Surgeon to his Majesty's garrison in the Bahama Islands. 8vo, London.

A treatise on the real cause and cure of insanity; in which the nature and distinctions of this disease are fully explained, and the treatment established on new principles. By Andrew Harper, author of the Oeconomy of Health. 8vo, London.

An essay on the fracture of the patella, or knee-pan; containing a new and efficacious mode of treating that accident, and obviating that deformity and lameness which arise from the old and common mode of treating it. Illustrated with plates. To which are subjoined, observations on the fracture of the olecranon. By John Sheldon, F. R. S. and Professor of Anatomy in the Royal Academy of Arts, London. 8vo, London.

An introduction to the practice of midwifery. By Thomas Denman, M. D. Licentiate in Midwifery of the College of Physicians. Vol. 1. 8vo, London.

Meteorological account of the weather at Madras, from the first of June 1787,
to

to the 31st of May 1788. 8vo, Madras.

A treatise on female, nervous, hysterical, hypochondriacal, bilious, convulsive diseases, apoplexy, and palsy; with thoughts on madness, suicide, &c. In which the principal disorders are explained from anatomical facts, and the treatment formed on several new principles. By William Rowley, M. D. Member of the University of Oxford, the Royal College of Physicians, &c. 8vo, London.

A letter addressed to Dr Priestley, Messrs Cavendish, Lavoisier, and Kirwan, endeavouring to prove that their newly adopted opinions of inflammable and dephlogisticated airs forming water, and the acids being compounded of different kinds of airs, are fallacious. By Robert Harrington, M. D. 8vo, London.

A short appendix to Dr Monro's treatise on medical and pharmaceutical chemistry, and the materia medica. To which is added, An answer to the remarks of the critical review for October 1788, on the first volume of that work. 8vo, London.

Vindication

Vindication of the opinions and facts contained in a treatise on the glandular disease of Barbadoes. By James Hendy, M. D. Member of the Edinburgh Royal Medical Society, Physician during the late war to his Majesty's Naval Hospital of Barbadoes, &c. 8vo, London.

A general system of chemistry, theoretical and practical, digested and arranged with a particular view to its application to the arts. Taken chiefly from the German of M. Wieg-
leb. By C. R. Hopson, M. D. 4to, London.

A comparative view of the phlogistic and antiphlogistic theories; with inductions. To which is annexed, An analysis of the human calculus; with observations on its origin, and on the most probable means of preventing its formation. By William Higgins of Pembroke-College, Oxford. 8vo, London.

A few observations concerning those things which are probable, or in some measure ascertained, relative to the history and cure of the plague. By William Henderson, M. D. Member of the Royal Medical Society of Edinburgh. 8vo, London.

An

An enquiry into the nature, causes, and termination of nervous fevers; together with observations tending to illustrate the method of restoring his Majesty to health, and of preventing relapses of his disease. By Robert Jones, M. D. 8vo, Salisbury.

An account of the principal lazarettoes in Europe, with various papers relative to the plague; together with further observations on some foreign prisons and hospitals, and additional remarks on the present state of those in Great Britain and Ireland. By John Howard, F. R. S. 4to, London.

A treatise on the diseases of children, with general directions for the management of infants from the birth. By Michael Underwood, M. D. Licentiate in Midwifery of the Royal College of Physicians in London, and Physician to the British Lying-in Hospital. A new edition, revised and enlarged. In two volumes. 8vo, London.

An essay on phlogiston and the constitution of acids. A new edition. By R. Kirwan, Esq; Member of the Academies of Stockholm, Upsal, Dijon, &c. To which are added, Notes exhibiting and defending the antiphlogistic theory,

theory, and annexed to the French edition of this work, by Messrs de Morveau, Lavoisier, de la Place, Monge, Berthollet, and de Fourcroy. Translated into English; with additional remarks and replies by the author. 8vo, Londo .

Asiatic researches, or transactions of the society instituted in Bengal, for enquiring into the history and antiquities, the arts and sciences of Asia. Vol. 1. 4to, Calcutta.

Advice to gouty persons. By Dr Kentish. 8vo, London.

Observations on the Brunonian practice of physic. By George Mosman, M. D. 8vo, London.

Memoirs of the Medical Society of London, instituted in the year 1773. Vol. 2. 8vo, London.

The instruments of medicine, or the philosophical digest and practice of physic. By George Hoggart Toulmin, M. D. 8vo, London.

A lecture on the atmosphere of London, read before a public society, June 14. 1788; with four plates, illustrative of the phænomena,
and

and a preface. By Benjamin Taylor. 4to, London.

History of some of the effects of hard drinking. By J. C. Lettsom, M. D. F. R. S. & F. S. A. 8vo, London.

Precis du siecle de Paracelse. Par M. Joyand, D. M. de la Faculté de Benfançon, Medecin de l'Hopital militaire de Brest. Tom. 1. 8vo, Paris.

Methode pour traiter toutes les maladies, tres utile aux jeunes medecins dans les campagnes. Dedié au Roi. Par M. Vachier, Docteur-regent de la Faculté de Medecine, ancien Professeur des Ecoles de Medecine de Paris, &c. Tom. 7. 12mo, Paris.

Demonstrations élémentaires de botanique; contenant les principes generaux de cette science, l'explication des termes, les fondemens des methodes, et les elemens de la physique des vegetaux; la description des plantes les plus communes, les plus curieuses, les plus utiles; rangées suivant la methode de M. de Tournefort, et celle du Chevalier Linné. Troisieme edition, corrigée et considerablement augmentée. 3 Tomes. 8vo, Lyon.

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